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October 1981/$2.00

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The Journal of Landscape and Golf Course Design, Construction and Care Since 1962

Turfgrass Seed Harvest Report

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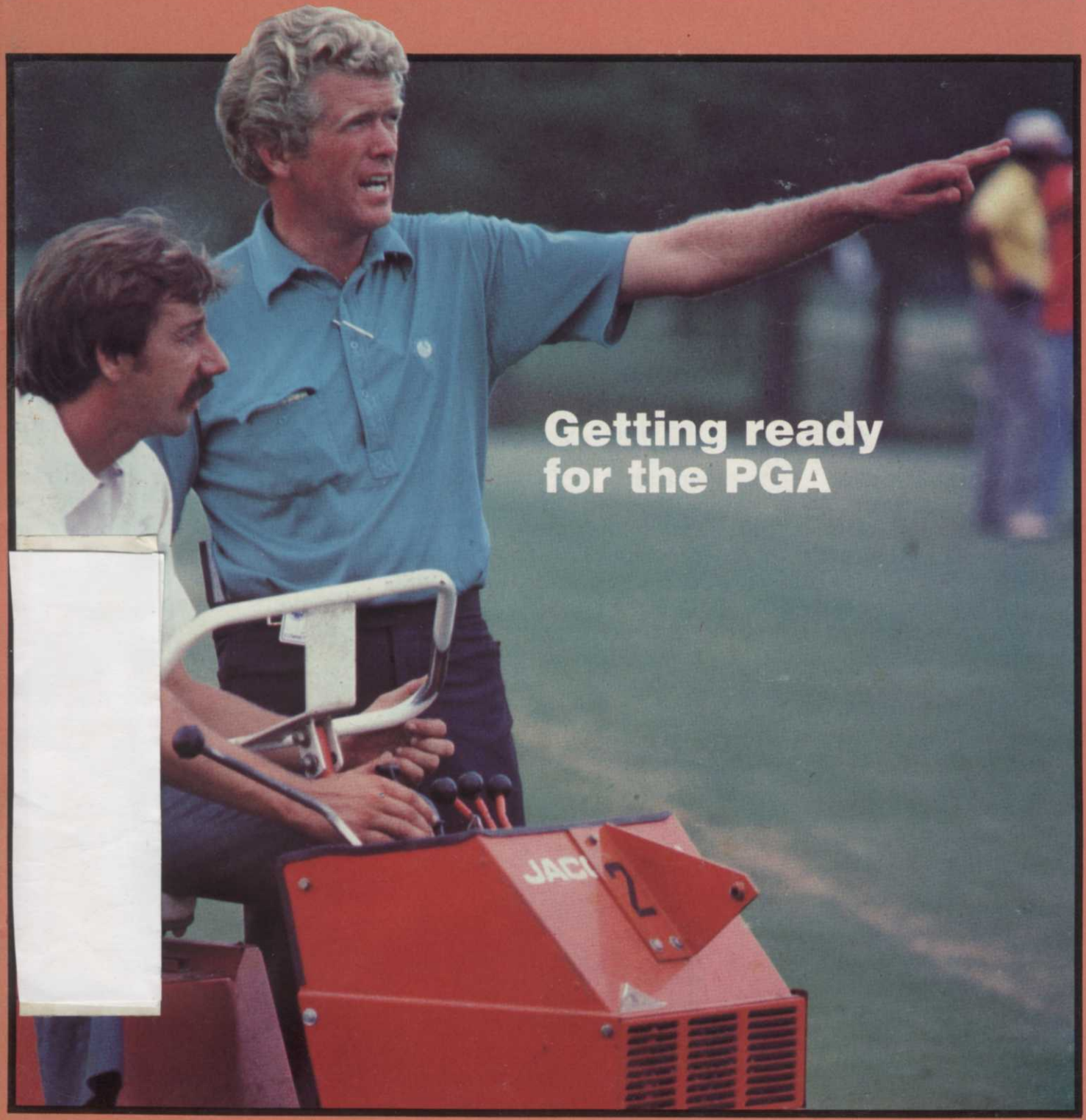

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A devastating grass disease virtually destroyed the greens at Butler National Golf Club, Oak Brook, Illinois, home of the *Western Open*, shortly before the 1980 tournament. The Butler Board of Directors decided to replace the grass on all greens and after viewing several varieties of bentgrass in the Chicago area, they selected Penneagle Creeping Bentgrass for the restoration program.

Dr. Joseph M. Duich, professor of Turf Science, Penn State University, and developer of Penneagle bent was called in as a consultant. Working closely with Oscar Miles, Course Superintendent, the reseeding of Butler National was begun in mid-August 1980. Before the project was completed, the entire course was seeded to Penneagle Bentgrass.

By November the course was pronounced in excellent condition and by the 1981 Western Open the course drew raves from players and spectators alike.

The TEE-2-GREEN CORP., marketers of Penneagle and Penncross bentgrass has published a booklet complete with photos of the Butler restoration program. The step by step program at Butler is available free of charge.

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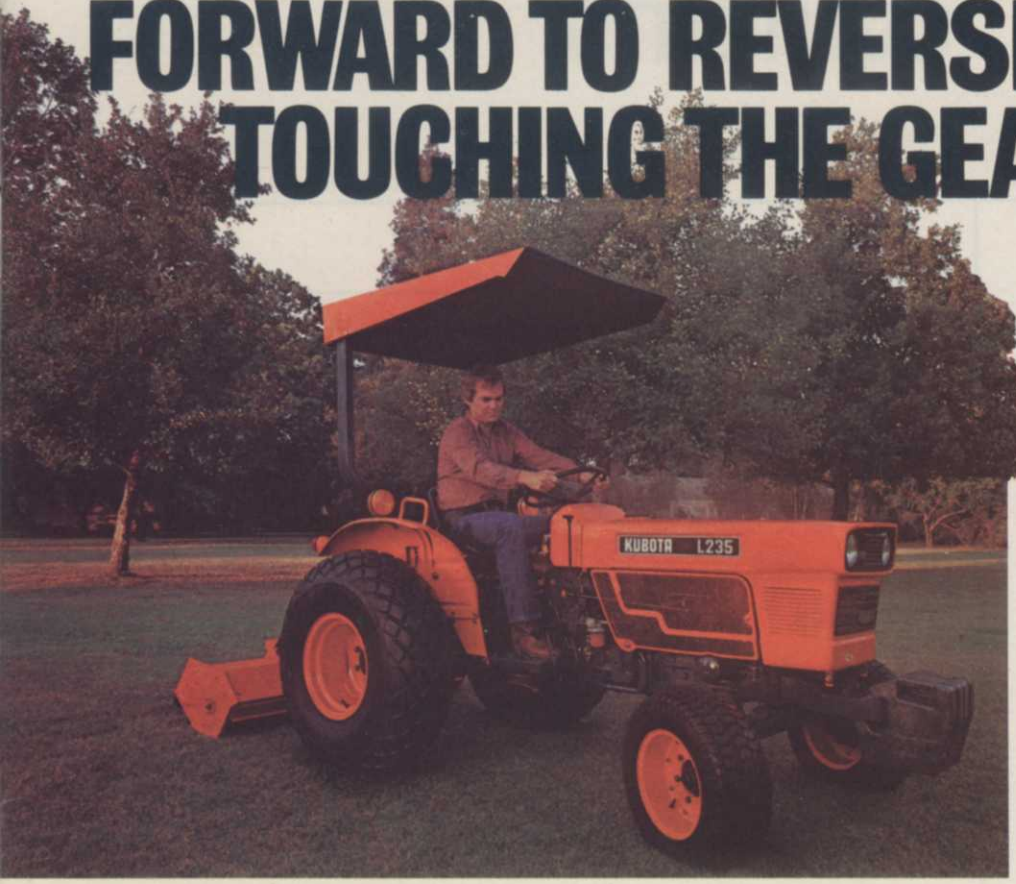

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*Gross engine hp manufacturer's estimate.

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Cover: Jim Ganley directs staff on triple cutting fairways during the PGA Tournament.

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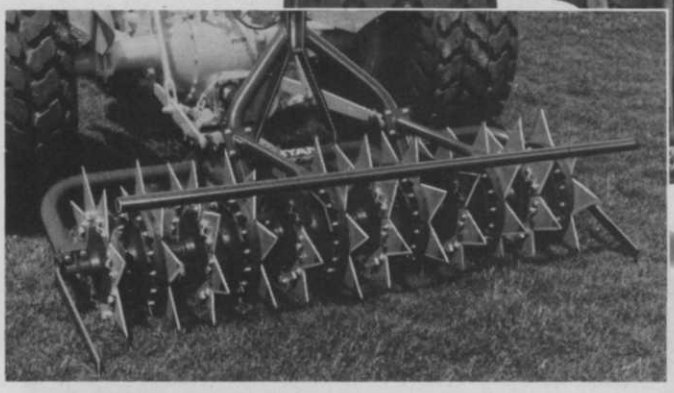

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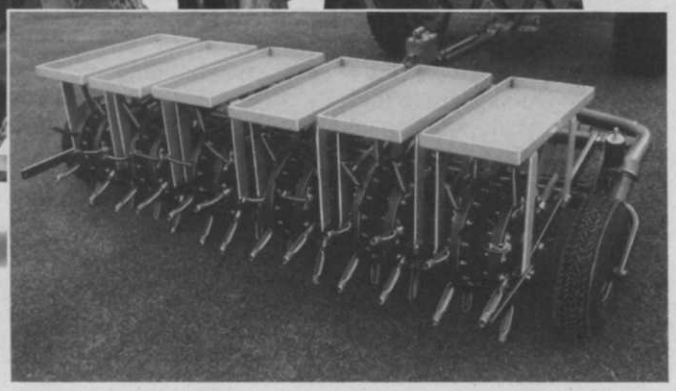

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OUTLOOK

By Bruce F. Shank, Executive Editor

Planning for Recovery

Timing is critical in planning for economic recovery. Jump too soon and a good idea may flop. Wait too long and others will have the momentum and the materials on hand when business comes.

Economists now see high interest rates through 1981 and falling in spring or early summer '82.

So, we are looking at late spring or early summer before housing starts begin increasing again. Companies, encouraged by faster depreciation, should act quickly to take advantage of lower interest rates for commercial construction. From a landscaper's point of view, new residential landscape construction will not take place for six or more months after residential recovery and 12 months or more following commercial construction recovery. From now until the autumn of 1982 new business will be hard to find.

One interim solution may be the home improvement market. Focus marketing where recovery time is much shorter.

It is a good idea to learn alternative financing for your type of jobs. You should be able to intelligently discuss the advantages or disadvantages of second mortgages, home improvement loans, and management of taxes with a potential customer. Ask your accountant to keep you informed on all creative methods of paying for landscaping.

Another thought, it's one thing to tell a homeowner that landscaping increases the value of his home. It's another thing to prove it with comparable listings from a real estate firm in the area. Equal to value of real estate is how quickly it sells. Real estate brokers have had it fairly rough in many areas. You may be able to help them move more houses with alteration of landscaping.

In late spring, start meeting with building contractors in your area to judge contract potential for the fall. Let them know you want to bid on their projects. Early news of a potential job can help prepare you to bid it carefully.

Maintenance

Recent news of possible shortages of preemergence herbicides for 1982 should not be ignored. Some adjustment will be necessary for maintenance operations and golf courses. Contact your local distributor immediately for his stock situation.

Take a good look at your equipment and seek advise on improving depreciation deductions. If it becomes apparent that a unit will not make it another year without major overhauling, perhaps you can take advantage of 1982 tax law changes and still reserve the equipment this year. Many manufacturers have spring delivery programs.

Major investments such as irrigation may fit nicely into depreciation planning. Tractor manufacturers are anxious to sell due to decreased agricultural machinery sales.

The point is you have to gauge many factors to set your recovery timing. If you just wait for things to happen, chances are you will take longer than others to bounce back. Haven't we all waited long enough? **WTT**

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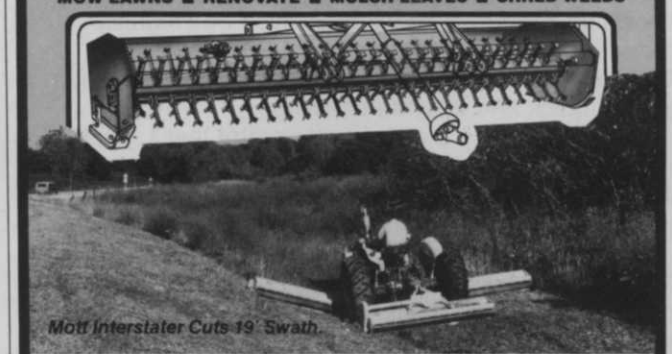

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GREEN INDUSTRY NEWS

TREES

ISA Show gets away from it all

Take away the choice of restaurants, limited parking, taxicabs, crowded hotels, and the general pressure of a city convention and you have a relaxed, clear-headed learning experience. The International Society of Arboriculture 57th Annual Conference was held in remote Boyne Falls, Michigan, more than 50 miles from the nearest major city, Traverse City. Attendance did not suffer and the arborists and scientists appreciated the change of pace.

It was more like camp than a convention. The deans of horticulture, including L.C. Chadwick, Gordon King, and Clancy Lewis mixed informally with everyone attending. Their students, now making up the technical backbone of the industry, were there in numbers to discuss their research and expertise. Both groups were completely accessible for questions in a no-pressure atmosphere.

Conference Chairman Ted Haskell knew of Boyne Mountain's ski lodge atmosphere. The facility is often used for Michigan association events. It was also conducive to outdoor displays of equipment. Sprayers, chippers, transplanters, stump grinders and aerial lifts had the room to move and the freedom to be noisy while potential buyers watched.

All speakers approached the subject of improved trees and maintenance considerations. Northern city arborists are strongly concerned about winter hardiness, disease resistance, and maintenance levels for street trees. Tree cultivars and seed source were closely examined by the speakers and their audiences. Speakers included: Dr. William Black of Chemscape Div. of ChemLawn, Dr. Douglas Chapman of Dow Gardens, Dr. Victor Dropkin of the University of Missouri, Dr. Henry Gerhold of Pennsylvania State University, Dr. Donald Ham of Clemson University, Dr. David Hamilton of Purdue University, Dr. E.B. Himelick of the Illinois Natural Historical Survey, Dr. Warren Johnson of Cornell University, Dr. David Karnosky of Carey Arboretum, Dr. James Kielbaso of Michigan State University, Dr. Robert Partyka of Chemscape Div. of ChemLawn, Dr. Harold Pellett of the University of Minnesota, Dr. Wilbert Ronald of the Manitoba Research Station in Morden, Dr. Frank Santamour of the U.S. National Arboretum, Dr. Davis Sydnor of Ohio State University, Dr. Alden Townsend of the USDA Tree Research Station in Ohio, Dr. Fred Valentine of the State University of New York-Farmingdale, Dr. George Ware of Morton Arboretum, and Dr. Gayle Worf of the University of Wisconsin.

Business and marketing were covered for commercial arborists by Larry Holkenborg of Sandusky, Ohio; Bruce Wilhelm of Denver, Colorado; and Gary Maier of Des Moines, Iowa. Most major utility companies were represented at the utility arborist session and the municipal arborists heard of experiences in the cities of Milwaukee; Colorado Springs; Freehold, NJ; and Atlanta.

Sessions were well attended since attention was concentrated on the show by design. All meals, including an outdoor barbecue and dance, were in one place at fixed times. Fishing, golf, tennis and nature trails were adjacent to the lodge. The ski lift was operating most of the time.

Associations and exhibitors can debate at length about location of shows. But there is little doubt that a relaxed environment with few distractions gains the most attention from attendants.

Boyne Mountain Lodge and its surroundings provided the casual atmosphere for the ISA Show. Outdoor equipment demonstrations and a picnic gave the exhibitors unlimited space and attention for their products.

SOD

New housing slowdown causes sod sales slump

"When the housing industry is good, sod is too," said Walter Pemrick, Warren's Turf Nursery, Crystal Lake, IL, "and right now housing isn't too good."

The drop in new housing units (due mainly to high interest rates) has led to a decline in sod sales, according to industry sources. "The general feeling among sod producers is that sales are somewhat down," said Bob Garey, American Sod Producers Association. "A lot of the growers are concerned because they are uncertain about the future of the economy." Garey added that besides the housing slowdown, water shortages in some areas has hurt sod sales.

"Our business is up slightly this

Continues on page 12

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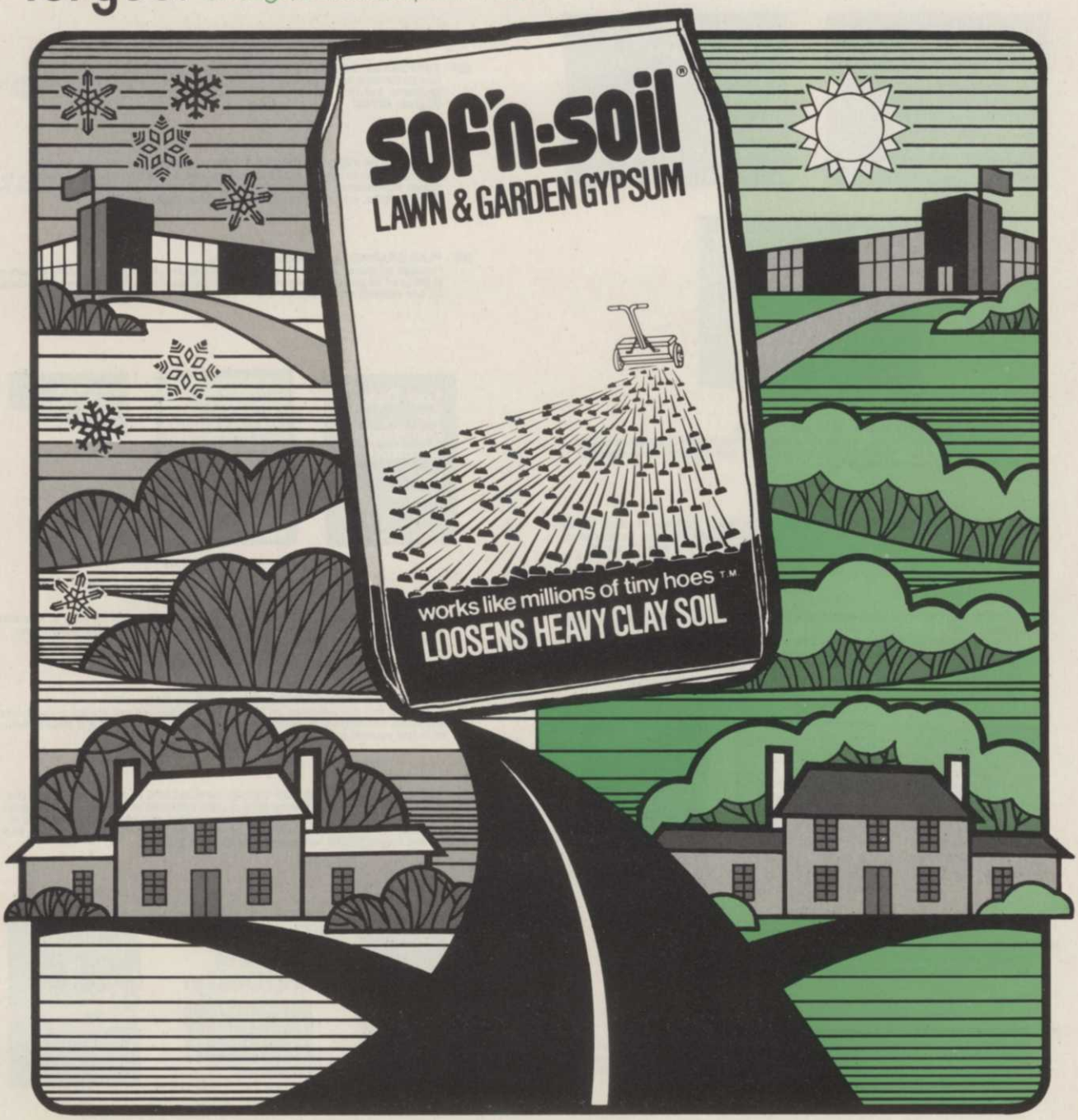

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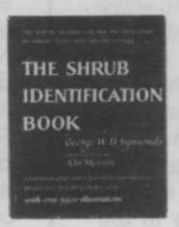

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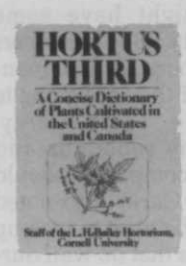

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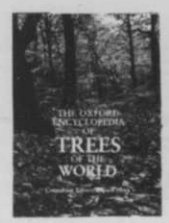

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WTT10

GOLF UPDATE

NGF arranges Forum on Golf

In an effort to identify golf's critical problems and fathom how to solve them, the National Golf Foundation has scheduled a "Forum of Golf" meeting for October 18-20, 1981, in Dallas.

The meeting will be the first step in a proposed restructing of NGF, to make it a more aggressive force in stimulating new interest and participation in the game of golf. Deane Beman of the PGA Tour told the NGF Board of Directors at their annual meeting that the average age of an American golfer has increased to 42.5 years old, golf is perceived as slow and costly, and "television ratings have decreased considerably in the last five years." Beman, Joe Black (also of the PGA), LPGA's Ray Volpe and NGF's James Long are scheduled to speak at the meeting.

In other NGF news, the foundation has scheduled its 1981 NGF Golf Course Management Workshop for November 29-December 2 at the Pheasant Run Convention Resort Hotel just outside of Chicago. The theme of the seventh annual workshop is "Survival in the 80's." Scheduled speakers include: Dick Nugent, American Society of Golf Course Architects; Marshall Dann, Western Golfers Association; Mike Bavier, Golf Course Superintendents Association of America; and John Husar, Chicago Tribune golf columnist.

NGF has named Annette Thompson, formerly women's golf coach at Penn State University, director of education services. Harry Eckhoff has moved to director of golf facility, while Mark Boorman has become NGF's director of communications.

Builders enter second decade

The Golf Course Builders of America has embarked on its second decade. The association, headquartered at 725 15th Street, N.W., Washington, DC 20005, was formed in 1970 as a national organization for companies that construct, renovate and rebuild golf courses.

Among its many membership services, GCBA publishes a yearbook-directory that also lists other golf trade groups and includes articles on construction by leading golf course architects. The association exhibits at the Golf Course Superintendents Association convention where its also holds its annual seminar on golf course construction and problems.

In 1981 Frank Underwood, Bowie, TX, was elected for an unprecedented third term as president of GCBA.

In other GCBA news, a sister organization, the British Association of Golf Course Constructors, has been formed. Located at 6 Fitzwalter Place, Chelmsford, Essex, England, it is comprised of contractors and supplier groups with the initial membership reaching 15.

Long Island superintendents choose Reilly

Ann Reilly, executive secretary of the New York State Turfgrass Association has been selected to be executive director of the Long Island Golf Course Superintendents Association. The decision was announced by LIGCSA President Edward Fufaro.

Reilly is also association manager for Mailorder Association of Nurserymen and florist groups in the Northeast. She is familiar with both turf and nursery specialists in the region and nationally.

Employee meal costs not taxable

A recent Supreme Court decision has ruled that FICA/FUCA taxes can not be taken on the cost of meals for employees. Many superintendents eat meals at their clubs so they can be reached in case of problems. This cost is not taxable according to the ruling. Lodging costs are also not taxable in certain circumstances. Refund claims can be filed for the years 1978 to the present. Contact the National Club Association for more information 1625 Eye St., NW, Washington, DC 20006 (202) 466-8424.

News *from page 6*

year," said Daryl Spikes, Southern Turf Nurseries, Tifton, GA. "One reason is that a lot of housing construction had already started (before the current interest rate crunch). I think housing sales will be even slower in 1982." Like some other sod producers, Southern Turf Nurseries is planning to work around the housing shortage. "We are going to intensify our marketing strategy," said Spikes. "We're going to try and get a bigger percentage of new housing business and work more closely with the contractors and landscapers." Spikes noted that even in tough times golf courses provide a steady flow of business.

According to Garey, the current sod sales slowdown might have some beneficial side effects. "Sod producers are going to have to increase their management efficiency if they are going to effectively compete," said Garey. "When the economy rebounds and sales pick up, those companies should be in better shape." Garey also noted that growers should be alert to pick up hints from companies that do well during the slowdown. "With sales holding up in the northeast, one of the reasons could be their aggressive sales techniques," he speculated. "They do a good job of promoting sod."

According to sod growers, the midwest has been hit by the housing slowdown and some areas of the south also report sluggish sales. The northeast and the west seem to be holding their own but many growers have resorted to price cutting for the first time. Sod producers in the Sunbelt and other growing metropolitan areas (e.g. Denver) reported strong sales.

With interest rates remaining high, some sod growers have turned to current home owners as a source of business, according to Garey. "When people can't afford to go into debt to buy a new home they will often spend the money to improve their current one," he said.

CHEMICAL

Houston plant fire wipes out '82 Dacthal

A fire in Diamond Shamrock's plant in Houston, Texas, in late July wiped out the 1982 supply of Dacthal preemergence herbicide for turf. Preemergence herbicides for turf have been in short supply for nearly three years. Losing a major product like Dacthal will send turf managers to suppliers now for 1982

Continues on page 14

Circle No. 114 on Reader Inquiry Card →

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LANDSCAPE UPDATE

Interior landscape show set for St. Paul

The third annual meeting of the Interior Plantscape Association, October 28-30, will feature more than 30 speakers on 40 topics as well as the first certification examination for interior landscaping given by the National Council for Interior Horticultural Certification.

Basics will be covered as well as trends, including hydroculture, tissue culture, and gravel culture. Business aspects include starting the business, building it, adding computers, and scheduling routes. Speakers include Dr. Richard Lindquist on Insect Control, John Peterson, Dr. Charles Powell, Dr. Paul Reed, Dr. George Manaker, and Dr. Arnold Gussin. Business discussions will be led by leading interior landscapers.

Interested persons should contact IPA, 11800 Sunrise Valley Drive, Reston, VA 22091 (703) 476-8550.

NLA calls for landscape award entries

Entry forms for the 12th annual National Landscape Association residential landscape award program are now available from Ray Brush, NLA, 230 Southern Bldg., Washington, D.C. 20005. Deadline is November 2, 1981.

Awards will be given for the categories including single family residence, entrance, active use area, and passive use area. Entries will be judged on the basis of practicality of design, selection of plants and materials, execution of installation, and maintenance of the project. Awards will be presented during the management clinic, February 8, 1982, in Louisville, KY.

2nd lawn care show has workshop format

The second annual convention and trade show of the Professional Lawn Care Association of America will feature a workshop format November 18-20, 1981, at Louisville, Kentucky's Commonwealth Convention Center.

Last year the association surprised a number of critics with a healthy turnout of both delegates and exhibitors. This year, after planning for more exhibit space, the PLCAA exceeded its expectations. More than 1,000 lawn care businessmen are expected to attend the event. More than 700 attended in the show's first year.

Keynoting this year's convention is Gulf Oil Vice President Ralph Lewis who will speak on "Energy-Yesterday, Today and Tomorrow". Lawn care is highly dependent upon gasoline and fertilizer prices.

Workshop sessions, where panels discuss relevant topics and the audience is invited to participate, will feature personnel management, profit and loss analysis, office management, handling and disposal of pesticides, advertising, management stress, and the 2,4-D situation. Workshops will extend into the evenings on topics such as liquid and dry programs, insects and diseases, ornamental programs, employee fringes, and equipment.

Interested persons should contact PLCAA, 435 North Michigan Ave., Suite 1717, Chicago, IL 60611 (312) 644-0828. Registration is $90 for nonmembers and single rooms range in price from $40 to $50 per night.

ALCA winter show speakers selected

A construction labor lawyer, a political businessman, a financial consultant to the landscape industry, and a millionaire expert on interpersonal relations will address attendants at the 1982 annual meeting of the Association Landscape Contractors of America, January 24-29, at the Riviera Hotel in Palm Springs, CA.

A record number of exhibitors have reserved booths and space for outdoor demonstrations, an ALCA custom for exhibitors. Interested persons should contact ALCA, 1750 Old Meadow Rd., McLean, VA 22102.

The certification exam for interior landscaping will be given at the ALCA show as will educational sessions on the subject.

News *from page 12*

stock. Chances are the suppliers will be unable to provide either Dacthal or Betasan from Stauffer Chemical Co.

Other alternatives are Balan by Elanco, Tupersan by Du Pont, and Ronstar by Rhone-Poulenc. Cost, residual period, and percentage control are less attractive for these substitutes. Stauffer plans to raise the price of Betasan 10-15 percent to cover the cost of expanded production. Herb Day, manager of specialty products for Stauffer, said production for Betasan had already started when they heard of the fire and only limited expansion of production was possible.

Products containing Dacthal and Betasan will either be short or more expensive next year. Much of the production of these chemicals is for private label combinations with major distributors of fertilizers and chemicals.

CONVENTION

NAA Annual Meeting Set for Maui, Feb. 14-18

The National Arborist Association (NAA) has planned its 1982 Annual Meeting for February 14-18 on the Island of Maui, Hawaii. The headquarters hotel will be the Maui Surf Resort on Kaanapali Beach.

"We expect a very good turnout," said Robert Felix, NAA executive vice president. "Over 150 members have already made their reservations and we think the final number will be nearly double that." Felix added that association members should plan to arrive Saturday, February 13, to overcome any jet lag that might result.

Hotel and air space will be assigned on a first-come, first-served basis so the association advises that members make their reservations as soon as possible. The deadline for reservations is December 28.

TURF SEED

Otto Pick buys Ontario company

Otto Pick & Sons Seed Ltd. of Ontario, Canada, has purchased the forage and turf seed division of Maple Leaf Mills Ltd. The purchase includes administrative, processing and research facilities. Maple Leaf is the prime distributor of Fylking Kentucky bluegrass in Canada. Many of the Pick and Maple Leaf efforts will be reorganized and combined.

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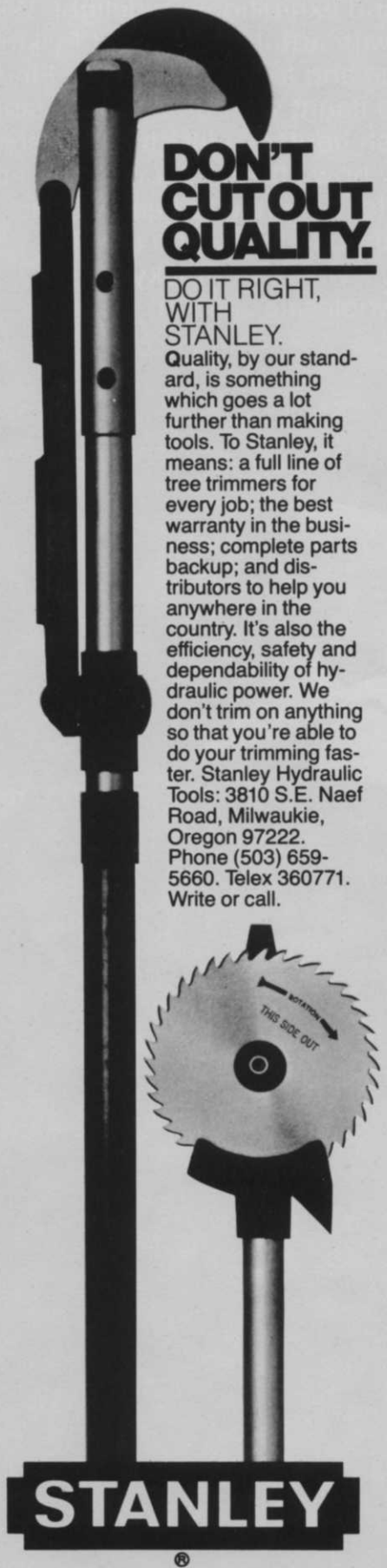
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GOVERNMENT UPDATE

by William Hoffman

Four indicted for falsifying safety data

Four former employees of Industrial Bio-Test Laboratories, Inc., (IBT) were charged with giving EPA false safety data on two pesticide active ingredients from 1970 to 1977. The indictments specified fradulent mice carcinogenicity tests on Sencor, a herbicide widely used on corn and soybeans, and Nemacur, a broad spectrum nematicide. EPA has asked the registrant, Chemogro Corporation, to repeat the false IBT studies.

During the early 1970s, IBT also conducted studies on another 200 pesticide active ingredients. Prominent on the list are chemicals such as acephate, atrazine, propoxur, pyrethrin, simazine, terrazole, toxaphene, captan, carbaryl, 2,4-D, DDVP, folpet, metasystox and paraquat. EPA initiated a review of these tests in 1978 and in some cases manufacturers have supplied new safety data. The economic applications of summarily removing some of the chemicals from the market are so serious that EPA chose to take the review route.

Agriculture Canada is also looking at the IBT-tested pesticides and will likely adopt a review technique similar to the one used in the United States.

Minor use pesticide data given boost

The EPA has just awarded a $35,000 grant to the IR-4 Project for development of data for minor use pesticides. The project, initiated by the USDA in 1963, aids growers of minor crops by coordinating the activities of various state and federal agencies to secure labels and tolerances for minor uses of pesticides. To date, more than $6 million has been spent in this effort.

Four years ago, IR-4 expanded from only food crop projects to non-food products, such as annual and perennial floral crops, shrubs, trees, tropical foliage, and turfgrasses. Data from research generated through 1980 have made it possible to assemble registration packages for 1,760 ornamentals involving 19 insecticides, 15 fungicides, and 15 herbicides. From these 969 new label registrations were granted.

The IR-4 program has had a large impact on interior plant pest control. The Interior Plantscape Association has been a driving force behind these efforts.

The research and data are done in USDA laboratories, state agricultural experiment stations, and private locations utilizing a team approach.

Safety agency seeks chain saw standards

The Consumer Products Safety Commission (CPSC) has begun developing a safety standard for chain saws aimed at reducing the risk of injury to users caused by kickback. In 1978, nearly 100,000 persons required medical attention after being injured while using chain saws. About one quarter of these injuries occurred when the saws kicked back. The CPSC estimates that the actual cost of kickback injuries in 1979, not including pain and suffering, was $24 million. There are nearly 18 million saws in use: 85 percent are gasoline powered and the remainder are electrically powered. Most (85 percent) of the injuries are caused by gasoline powered saws, especially those with a cubic inch displacement of less than 3.5.

The Commission has been working with the chain saw industry and the Chain Saw Manufacturing Association on a safety standard since 1977. It has now decided it would be more expeditious to develop the standard itself and hopes to have one completed by July 31, 1982.

The Commission is one of the independent Federal regulatory agencies targeted for extinction by the Reagan Administration. Congress has objected to such a move. The Commission may end up much smaller and in the U.S. Department of Commerce.

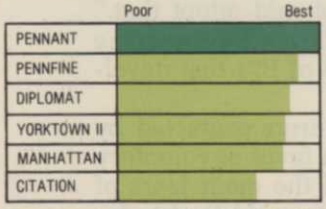
Circle No. 135 on Reader Inquiry Card

What do turfgrass experts say about Pennant* ryegrass?

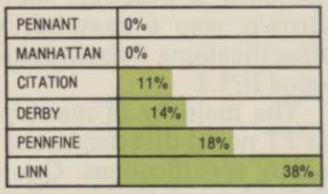
The Turf Trial results speak for themselves. Pennant is a champion. Rigidly controlled, comparative testing involving Pennant and competing varieties of perennial ryegrasses were conducted by turf experts across a broad region of the U.S.—the Pacific Northwest, the Southwest, the Northeast.

Pennant topped many of its competitors in these tests, including overseeding and heat tolerance trials in the Southwest. Some of the expert's findings are illustrated below.

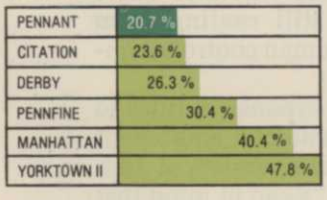
Warm and cool season average turf score, Southern California first-year tests, 1979.



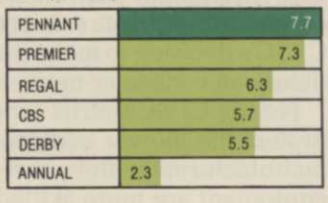
Percent winter injury. Adelphia, N.J. March 1978. (10 of 26 varieties tested showed no significant injury.)



Pennant was best among 12 varieties tested for red thread disease (Corticium fuciforme) in 1-year average, 1979-80. Western WA. (Low score = Best).

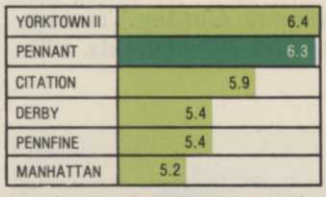


Average Turf Performance scores, February 1980. Southern Arizona turf overseeding on Tifgreen Bermuda. Sixteen entries seeded October 1979. (10 = Best).

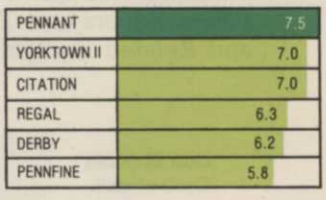


* Plant variety protection pending and anticipated

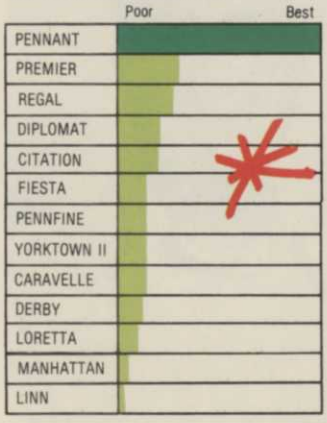
Turf performance scores. North Brunswick, N.J. 1975-78. (9 = Best).



Reaction to brown patch disease (Rhizoctonia), Adelphia, N.J., 1978. (9 = least damage)



Pennant was best among 57 varieties tested for sod webworm tolerance (lawn moth - Crambus spp. of the order Lepidoptera), Adelphia, N.J., August, September, October 1980.



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Circle No. 101 on Reader Service Card

CONFUSION REIGNS OVER FEDERAL, INDUSTRY TURF EQUIPMENT REGS

By Thomas Paciello, equipment editor

Confusion over which safety standards commercial turf care equipment manufacturers should follow is the heart of a 10-year disagreement between the manufacturers and the Occupational Safety and Health Administration (OSHA) and the Consumer Product Safety Commission (CPSC).

In 1971, OSHA adopted the American National Standards Institute (ANSI) B71.1 standard, "Safety specifications for power lawn mowers, lawn and garden tractors, and lawn tractors." However that standard was developed for consumer mowers and commercial equipment was excluded from its scope. This led to certain problems where non-consumer mowers were being used in an OSHA workplace.

Matters were further complicated since there have been several revisions to ANSI B71.1 after the 1968 version. These later revisions deleted the notice that the standard did not pertain to commercial equipment. While the federal OSHA adheres to the 1968 version, some state OSHA programs have adopted the later versions resulting in conflicts between state and federal OSHA requirements. (The latest version of B71.1, completed in 1980, excludes commercial equipment from its scope.)

In an effort to rectify this situation, the American National Standards Committee on Safety Standards for Lawn Mowers, Snow Throwers, Power Edgers and Trimmers, Garden Tractors, and Related Equipment and Attachments, B71, formulated American National Standard B71.4, "Safety specifications for commercial turf care equipment." The Outdoor Power Equipment Institute (OPEI) has sponsored the project since its inception in 1956.

The standard states, "The safety specifications in this standard apply to powered walk-behind, towed, and ride-on machines intended for marketing as commercial turf care equipment." In the appendix it is noted that the standard "was developed to provide a set of uniform voluntary requirements specifically addressing commercial turf equipment. In the past there has been confusion as to whether this equipment should be designed to conform to ANSI B71.1 or to agricultural or industrial equipment standards."

It would seem that the next logical step would be for OSHA to drop ANSI B71.1 and adopt B71.4. According to OSHA it is not that simple. The agency must first be petitioned to change the standard. It then checks to see if the reasons are worthy and if so, it goes through the "rulemaking" procedure. In rulemaking a proposal is developed, public hearings held and comments on whether the change is appropriate are gathered from all the parties with a vested interest.

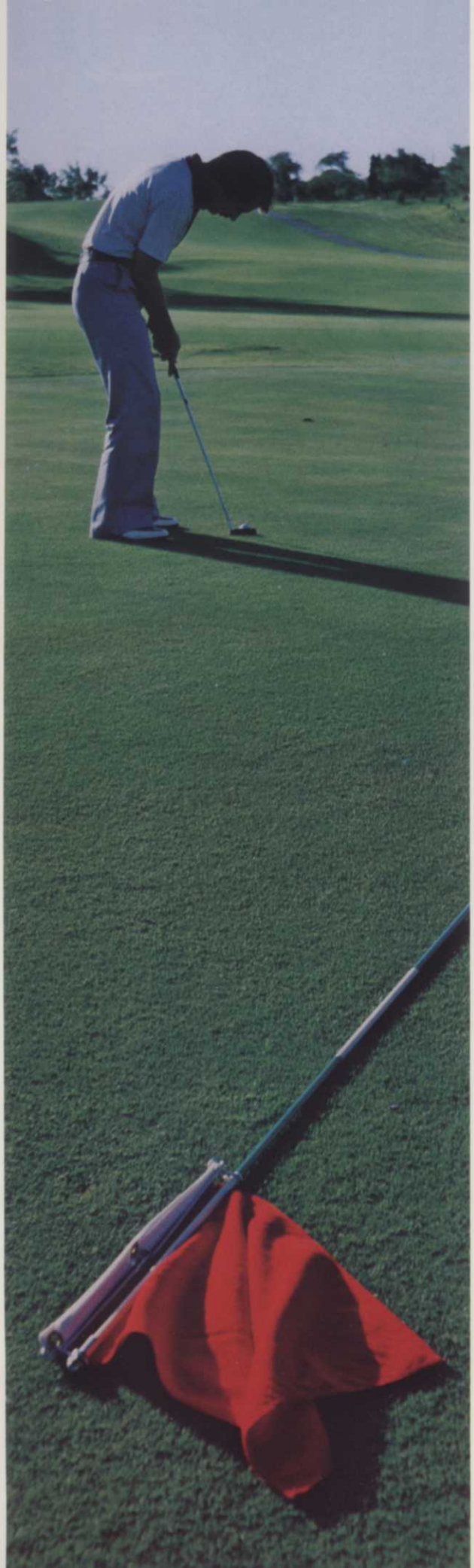
"We're locked-in to the standard we have now and the only way we can get out of it is to go through rulemaking," said one OSHA official. "We can't arbitrarily say we are going to adopt this (B71.4) standard. We are bound by administrative law to go through the proper process."

Not all manufacturers are in complete agreement with OSHA's stand. "It's ridiculous for OSHA not to adopt the commercial turf care standard," said Gilbert Brown, Bunton, Inc., Louisville, KY. "In 1971 they adopted what was available (B71.1). Now that a more applicable standard is available they should adopt that." Brown was a member of the Engineering Specifications Subcommittee of B71 that developed B71.4.

The majority of manufacturers contacted by *WTT* noted that they were in favor of *voluntary* safety specifications. One of the main fears of federal regulation was that it would lead to increased manufacturing costs. (Commercial turf care equipment manufacturers who also make consumer equipment are still reeling from CPSC's decision to make deadman controls mandatory on consumer mowers.)

Noting CPSC's strict (and expensive) rules to protect the mower user, commercial equipment manufacturers believe that the operators of their equipment are more skilled. "Keep in mind that

Don Broman
OMC Lincoln



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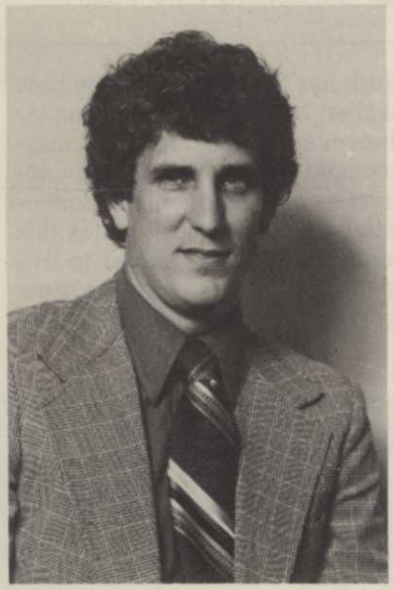
the people who operate commercial equipment are more qualified and their age bracket is more manageable," said Don Broman, OMC-Lincoln, Lincoln, NE. "They are usually between 18 and 65 so you don't have to worry about the safety of children. There are no 12 year-olds running commercial mowers."

Howard Price, Howard Price Equipment Co., Chesterfield, MO, pointed out that increased federal regulation might cause a problem with the specifications of older machinery that was manufactured under another standard.

While most manufacturers downplayed the importance of federal regulations, they were in almost total agreement that industry standards are important. "From a liability standpoint, integrity standpoint and customer-relations standpoint, it is very important that we comply with all



Ron Stolley
OMC Lincoln

the standards that we can," said OMC-Lincoln's Ron Stolley. Howard Price added that "buyers want to know that we follow some type of official specifications."

The commercial turf care equipment industry has plans to make voluntary regulations even more enticing to the manufacturers. ANSI B71.4 is currently being revised to correct any sections that are open to multiple interpretations. When that is done (probably sometime in 1982, according to OPEI technical director Ed Mentz) OPEI will institute a safety seal program for companies that manufacture their equipment in accordance with the revised standard.

"We want a reasonable safety standard and still be able to cut grass," said Bunton's Brown. "A lot of time was put in (to B71.4) and I think it's a good start." **WTT**

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SEED PRODUCTION AND DEMAND BALANCE IN SLUGGISH MARKET

By Bruce F. Shank, executive editor

Turfgrass seed producers have reported to *Weeds Trees & Turf* that this year's harvest was not as good as expected, but adequate to meet the demand of a market suffering from drought and a weak economy. Increased demand for cheaper, faster germinating perennial ryegrass has started to have a small effect on the consumer demand for Kentucky bluegrass, according to Bill Meyer, Turf Seed, Inc.

Sod producers, large buyers of improved turfgrass seed, have seen sales drop by 50 percent in some areas. A drop in both residential and commercial construction as well as drought conditions are blamed. Interest rates have also slowed home improvement.

The transition to improved grasses is starting to have an impact on the production of common turfgrasses. "Looks strange to see shortages of some of the common items, but it appears that acres were down this year and supply will be tight," said Larry Vetter, manager of Northrup King's Professional Turf Products Division. Vetter observes also that annual ryegrass, perennial ryegrass and creeping red fescue appear to be a little short for the coming year.

Rain at harvest time and ergot hurt production in the Northwest to a degree.

Supplies of some of the newer Kentucky bluegrasses, (such as Enmundi, Columbia and Shasta) will not meet demand. These grasses may be less proficient seed producers, haven't reached full production levels yet, or haven't had the acreage devoted to them by seed growers to meet demand. These same limitations are experienced by brokers of some of the newer perennial ryegrasses and fescues.

Shortages of common, annual and perennial ryegrasses, and red fescue appear possible this year.

Although research has taken years, many new varieties have reached the market. The broader selection is met, however, with a depressed market. Relief from drought has arrived in many locations, but interest rates remain high. Economists see little relief for high interest rates this year since businesses may have learned to live with them instead of fighting them. For the same reason, high interest rates may become less of an obstruction.

Turf Seed Harvest Report, Percentage of Anticipated Demand

Kentucky Bluegrass Varieties	% forecasted	% harvested
Adelphi	90	100
America	100	100
Aquila	75	50
A-34 (Bensun)	100	95
Banff	100	100
Baron	100	100
Birka	100	100
Bonnieblue	100	100
Bristol	100	100
Cheri	100	100
Common	100	95
Columbia	100	60
Eclipse	90	90
Enmundi	100	75
Fylking	100	100
Glade	98	100
Georgetown	Ltd.	Ltd.
Geronimo	100	100
Majestic	100	
Merion	100	100
Merit	100	100
Newport	100	100
Nugget	75	85
Parade	93	100
Park	65	75
Pennstar	100	0
Ram I	100	100
Rugby	60	75
Scenic	100	100
Shasta	100	50
Sydsport	100	100
Touchdown	85	100
Vantage	100	75
Victa	100	100
Wabash	50	40

Fescue Varieties	% forecasted	% harvested
Agrams chewings	75	100
Atlanta	100	100
Banner	100	100
Barfalla	100	100
Beaumont	10	10
Biljart	100	100
Checker chewings	100	90
Clemfine	Ltd	Ltd
Chewings	100	90
Creeping red	100	80
Dawson red	75	75
Ensylva	100	90
Falcon	40	30
Fortress	100	80
Highlight chewings	100	90
Houndog tall	10	0
Jamestown	100	100
K-31 tall	100	100

In 1981, Jacklin Seed Company bought Jenks-White Seed Company and International Seeds, Inc., purchased the turf seed division of North American Plant Breeders. These mergers consolidate production and research data. Instead of reducing competition, these mergers might actually increase competition between the large companies. The powers in the seed business have developed lines of improved turfgrasses to compete with each other.

Whereas retail seed tended to be either high quality or common, improved varieties by growing seed companies are making inroads. For example, International Seed's Derby perennial ryegrass is rapidly gaining popularity by retail garden center customers. The retail powerhouse has been and still is O.M. Scott & Sons, which recently purchased Burpee Seed Co. to further expand its consumer line. Vaughan Jacklin, Lofts, and others are regionally strong in retail. These professional turf seed companies are offering improved varieties thereby teaching retail customers the benefits of improved grasses over common ones for fine lawns. This demand is then passed on to the sod grower and landscape contractor when customers ask for improved grasses by name.

Seed companies will moderate price increases to compete with sluggish demand this fall. However, if demand picks up dramatically, there may be spot shortages of some varieties, including common ones. Sod producers in many locations have acres unharvested. They will likely not speculate and plant large acreage this fall. Spring seeding may be a safer alternative for them at this time. This would further aggravate shortages in the spring if dramatic recovery is experienced.

Sod producers in many areas have large unharvested acreage.

As a result, this fall may not be a bad time to replenish seed inventories whether or not you intend to use it this fall.

If the market for turf improves this fall and winter, you can bet the seed companies are going to let out all stops to produce record quantities of improved varieties in 1982. **WTT**

Koket chewings	100	100
Olympic tall	Ltd	Ltd
Pennlawn	100	50
Rebel tall	10	20
Reliant hard	Ltd	Ltd
Ruby red	70	70
Scaldis hard	70	40
Shadow chewings	Ltd	Ltd
Shannon tall	Ltd	Ltd
Tournament hard	50	50
Waldina hard	Ltd	Ltd
Waldorf chewings	100	90

Ryegrass Varieties	% forecasted	% harvested
Annual	100	90
Barry	100	100
Belle	100	40
Birdie	100	100
Blazer	80	80
Caravelle	100	100
Citation	100	80
Common perennial	100	75
Dasher	80	80
Delray	80	80
Derby	100	100
Diplomat	100	100
Elka	75	75
Fiesta	80	80
Goalie	80	90
Hunter	100	100
Jackpot	50	75
Loretta	100	100
LP-200	100	100
Manhattan	75	75
NK-200	100	100
Omega	80	80
Pennant	80	70
Pennfine	75	80
Premier	80	70
Regal	100	100
Yorktown	75	50
Yorktown II	100	100

Bentgrass Varieties	% forecasted	% harvested
Bardot colonial	100	100
Emerald	100	100
Exeter colonial	100	75
Carmen	Ltd	Ltd
Highland	100	100
Kingstown velvet	100	75
Penncross	100	100
Penneagle	78	80

Other Turfgrasses	% forecasted	% harvested
Fults *Pucinellia distans*	60	60
Redtop *Agrostis alba*	100	100
Reubens Canada bluegrass	100	100
Sabre *Poa trivialis*	100	60

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Gordon Baker, plant control biologist, Florida Water Management Group.
Gordon Baker has been involved with industrial vegetation management for over ten years: "Our project is second only to TVA in size. We have between 1400 and 1500 miles of interconnecting canals to cover. Over the last six years, we've used Banvel 720 for ditchbank brush control because of its economy. And, because it's right up there at the top for effectiveness."

Ed Ingle, landscaping engineer, North Carolina Department of Transportation, Division of Highways.
Ed Ingle recommends vegetation control herbicides for construction projects and highway maintenance in a seventeen county area: "We have used Banvel for three years and found it was an economical and safe chemical. We've had good results with it where we have a lot of kudzu and multiflora rose. There's really no comparison with 2,4-D alone."

Darryl Fendley, founder/owner, Certified Services, Cleveland, Tennessee.
Darryl Fendley has provided industrial vegetation control work for utilities and industrial facilities for over three years: "We use Banvel 720 for vines and brush control. It does a pretty good job, particularly around sensitive areas, because it doesn't have the soil persistency of some other materials. And, when you compare price, you can use a bit more Banvel than you can with some other products. So my preference is Banvel 720.

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PREPARING FOR THE PGA: SUPERINTENDENT TELLS ORDEAL

By Bruce F. Shank, executive editor

Sports announcers covering major golf tournaments rarely provide information on preparation and maintenance of the course or on the individuals who worried and sweated for more than two years to get everything ready for perhaps six hours of television exposure.

The television viewer assumes, for the most part, that any course could host a major tournament with minor adjustments. The Professional Golfers' Association and the superintendents involved in the PGA Championship will tell you otherwise.

The 1981 PGA was held at the Atlanta Athletic Club in Duluth, Georgia. The historic club, home course of professional Bob Jones and early employer of football trophy namesake John Heisman, had a reputation to protect.

The president of the Atlanta Athletic Club, Merriell Autry and the tournament committees knew the selection of a superintendent was critical to the success of the event. The 2,500 members were not to be embarrassed by mistakes.

With the advise of the PGA, the Club selected Jim Ganley in 1979, then superintendent of Forest Oaks Country Club in Greensboro, North Carolina. Ganley managed the preparation of that course for the Greater Greensboro Open for three years.

Ganley started his turf career under the tutelage of Dr. Joseph Troll at the University of Massachusetts. Immediately, Ganley caught golf fever and was acting superintendent of a golf course at the age of 18 during the summer. In less than ten years he and golf course architect Jeffrey Cornish of Amherst, Mass., built six courses, including the Connecticut Golf Club for Lawrence Wein, then owner of the Empire State Building. This course is now called the Golf Course at Aspituck.

To apply his experience to turf in the West Coast, Ganley worked for O.M. Scott & Sons in research and development in California. His next move was to Pinehurst, one of the largest golf facilities in the world located in North

A special touch for PGA golfers, viewers, and gallery was this annual display celebrating the event. Despite rain and clouds, the display brightened the atmosphere during the tournament.

Carolina. From there he went to Forest Oaks.

During his career Ganley made an effort to meet the touring professionals and get their opinion of tournament courses. Ganley is a close friend of Lanny Watkins. He also talked with PGA staff at every opportunity. It was the professionals and the PGA staff that knew of Ganley's experience and passed the word to tournament club officers.

Tournament preparation

The Atlanta Athletic Club has 36 holes in two different courses, the Highlands and the Riverside courses. Originally designed by Robert Trent Jones, the course had been improved by golf course architects Joe Finger and Tom Fazio.

The largest problem upon Ganley's arrival was an older irrigation system with incomplete coverage. The Highlands course was to be the tournament course and Ganley began to build a case for an improved irrigation system on the Highlands and repair of the older system on the Riverside.

The largest problem was an older irrigation system with incomplete coverage.

Ganley felt a misting system on the perimeter of the greens, separate from the course system, would help regulate surface temperatures in the 95 degree plus Atlanta heat. Working with Toro Irrigation Division, Ganley chose a double-row system looped in every fairway.

With evidence and drawings in hand, Ganley went before the Greens Committee and got a go ahead. In 1979, more than 77,000 ft. of pipe was laid in the Highlands course.

With slightly more than one year before the tournament, Ganley knew green reconstruction or renovation was tricky. Instead, he chose to heavily topdress with pure sand. The greens had a percolation rate of 2½-inches/hour and he wanted to get it up to 4-inches/hour. His crew double aerified the greens with ⅝-inch spoons and topdressed with pure sand. Percolation increased 25 percent. Now this process is used in the spring and fall every year in addition to light sand topdressings 8 times per year.

All 36 greens are Penncross usually cut at 5/32-inches. The Highlands greens were double-cut at 3/32-inches for the PGA. The greens receive 6 lbs. of nitrogen per 1,000 square feet per year. The fertilizer program was not increased from previous superintendents.

The fungicide program includes Dyrene, Tersan 1991 with Danconil, and Tersan 1991 with Actidione and Thiram. Ganley doubled fungicide applications from previous programs.

He also doubled the insecticide program which includes Scotts Granular 2 Insecticide, Dursban and Proxol.

Ganley shows PGA officials the triple-cut fairways prior to the tournament.

The herbicide program for greens centers around two applications (April 15 and June 15) of Betasan preemergence control of crabgrass and goosegrass. Fairway weeds are controlled by two applications of Balan and spot treatments with MSMA. No treatments are made during July to prevent discoloration.

Fungicide and insecticide programs were doubled.

For the tournament the fairways were triple-cut, the third cut with a greens mower, at ⅜-inch. The fairways are Tifgreen 328 Bermudagrass fertilized with 3 lbs. N/1,000 sq. ft./year. Ganley does not overseed greens or fairways.

Tees are also Tifgreen. They receive 4-4½ lbs. N/1,000/year and are mowed at ¼-inch. The rough is mowed at 2-inches and 4-inches depending upon the location.

The course is heavily trapped. Many greens have traps both in front and back.

Other improvements

More than 5 acres of sod was purchased to renovate fairways, tees and greens prior to the tournament. Part of this was a 20,000 square foot practice green.

More than 60,000 feet of drainage tubing was installed. This proved exceptionally wise since it rained the week before and two days of the tournament. To keep playing conditions on the greens consistent Ganley misted the greens periodically during dry days.

Continues on page 50

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Allis Chalmers **Box 152** **Milwaukee, WI 53201** **414-475-2000**														
5020	21.8	2	1900	2	540	1	D	Yes	3	Yes	$6855	Direct	U.S.	3
5020-4	21.8	2	2150	4	540	1	D	Yes	3	Yes	$7599	Direct	U.S.	3
5030	26.4	2	2280	2	540	1	D	Yes	3	Yes	$7699	Direct	U.S.	3
Bolens Div. FMC Corp. **215 S. Park** **Port Washington, WI 53974** **800-447-4700**														
G16XL	16	1	700	2	3600	Sleeve	G	Yes	4	Yes	NA	Direct (4)	U.S.	60
G16XL	16	1	785	2	3600	Sleeve	G	Yes	Inf.-Hydro	Yes	NA	Direct (4)	U.S.	60
G16XT	16	2	690	2	3600	Sleeve	G	Yes	4	Yes	NA	Direct (4)	U.S.	60
H16XT	16	2	780	2	3600	Sleeve	G	Yes	Inf.-Hydro	Yes	NA	Direct (4)	U.S.	60
QT 17	17	2	922	2	2000	3 pt.	G	Yes	inf.-Hydro	Yes	NA	Direct (4)	U.S.	60
HT23	23	2	1100	2	2000	3 pt.	G	Yes	Inf.-Hydro	Yes	NA	Direct (4)	U.S.	60
G102	15	3	1075	2	454/724/1185	0/1	D	Yes	6	Yes	$4600	Direct (4)	U.S.	60
G154	15	3	1200	4	454/724/1185	0/1	D	Yes	6	Yes	$5090	Direct (4)	U.S.	60
G174	17	3	1200	4	454/724/1185	0/1	D	Yes	6	Yes	$5470	Direct (4)	U.S.	60
G192	19	2	1675	2	540/1100	1	D	Yes	9	Yes	$5195	Direct (4)	U.S.	60
G194	19	2	2000	4	540/1100	1	D	Yes	18	Yes	$5695	Direct (4)	U.S.	60
G242	24	2	1675	2	540/1100	1	D	Yes	9	Yes	$5995	Direct (4)	U.S.	60
G244	24	2	2000	4	540/1100	1	D	Yes	18	Yes	$6495	Direct (4)	U.S.	60
2902	29	3	2631	2	540/1100	1	D	Yes	8	No	$7259	Direct (4)	U.S.	60
2904	29	3	2948	4	540/1100	1	D	Yes	8	No	$9392	Direct (4)	U.S.	60
Power King Tractors **2021 MacArthur Road** **Waukesha, WI 63186** **414/547-5558**														
1612	12	1	752	2	2000	3 pt.-0	G	Yes	3	Yes	$2660	400+	U.S.	35
1614	14	1	938	2	2000	3 pt.-0	G	Yes	3	Yes	$3080	400+	U.S.	35
1616	16	1	950	2	2000	3 pt.-0	G	Yes	3	Yes	$3180	400+	U.S.	35
1618	16	1	980	2	2000	3 pt.-0	G	Yes	3	Yes	$3370	400+	U.S.	35
2414	14	1	966	2	2000	3 pt.-0	G	Yes	3	Yes	$3260	400+	U.S.	35
2416	16	1	978	2	2000	3 pt.-0	G	Yes	3	Yes	$3360	400+	U.S.	35
2418	18	1	1008	2	2000	3 pt.-0	G	Yes	3	Yes	$3550	400+	U.S.	35

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1455 W. Linda Vista
San Marcos, CA 92069
714-744-5001

95	33	2	1875	4	500/750	1	D	Yes	6	Yes	$ 8975	22 Dealers	U.S.	9
85	45	3	3000	4	540 or 900	1	D	Yes	7	Yes	$15650	22 Dealers	U.S.	9
86	55	3	3300	4	540 or 900	1	D	Yes	7	Yes	$17995	22 Dealers	U.S.	9

Ford Tractor Company
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Troy, MI 48084
313-643-2000

1100	13	2	1230	2 or 4	540	1-3 pt. & Swinging Draw Bar	D	Yes	10	Yes	NA	Multiple	U.S.	64
1200	16	2	1345	4	540	1-3 pt. & Swinging Draw Bar	D	Yes	12	Yes	NA	Multiple	U.S.	64
1300	16	2	1875	2 or 4	540	1-3 pt. & Swinging Draw Bar	D	Yes	12	Yes	NA	Multiple	U.S.	64
1500	20	2	2145	2 or 4	540	1-3 pt. & Swinging Draw Bar	D	Yes	12	Yes	NA	Multiple	U.S.	64
1700	25	2	2445	2 or 4	540	1-3 pt. & Swinging Draw Bar	D	Yes	12	Yes	NA	Multiple	U.S.	64
1900	30	3	2690	2 or 4	540	1-3 pt. & Swinging Draw Bar	D	Yes	12	Yes	NA	Multiple	U.S.	64
2610	39	3	3750	2	540	1-3 pt. & Swinging Draw Bar	G or D	Yes	8	Yes	NA	Multiple	U.S.	64
3610	44	3	3940	2	540	1-3 pt. & Swinging Draw Bar	G or D	Yes	8	Yes	NA	Multiple	U.S.	64
4110	52	3	4655	2	540	1-3 pt. & Swinging Draw Bar	D	Yes	8	Yes	NA	Multiple	U.S.	64
4610 SU (Super Utility)	55	3	4655	2	540	1-3 pt. & Swinging Draw Bar	G or D	Yes	8	Yes	NA	Multiple	U.S.	64
230ALCG (Low Center of Gravity)	39	3	3430	2	540	1-3 pt. & Swinging Draw Bar	G or D	Yes	8	Yes	NA	Multiple	U.S.	64
530ALCG	55	3	3450	2	540	1-3 pt. & Swinging Draw Bar	G or D	Yes	8	Yes	NA	Multiple	U.S.	64
340A	44	3	4470	2	540	1-3 pt. & Swinging Draw Bar	G or D	Yes	6 or 8	Yes	NA	Multiple	U.S.	64

Continued

Continues on page 32

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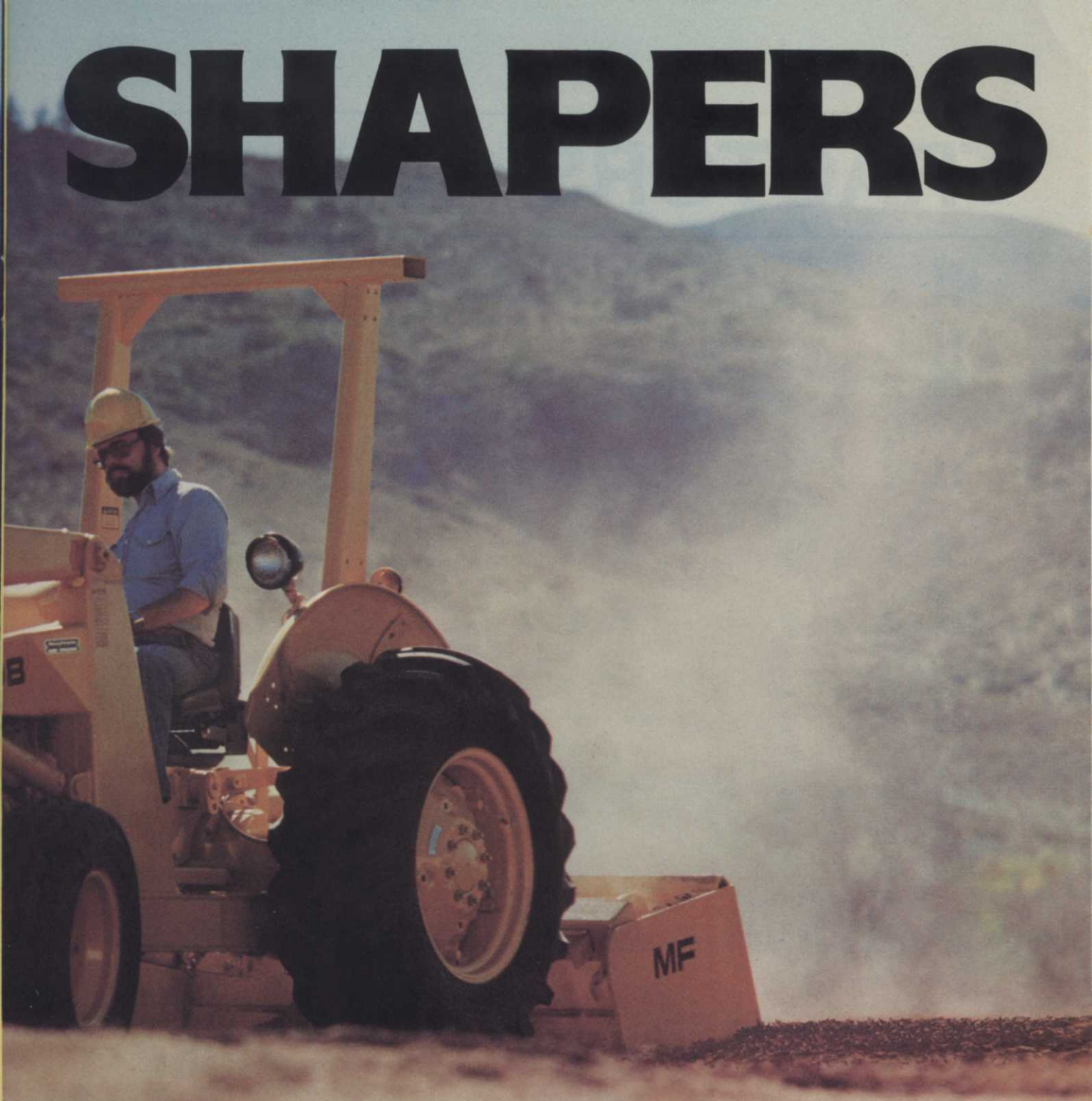

can load, backfill, scarify, scrape and level with one MF machine.

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Manufctr. & Model	H.P.	Cylin-ders	Weight	Two or Four Wheel Drive	PTO Speeds (RPM)	Hitch Type	Gas or Diesel (G or D)	Hydraulic Attchmnt. Cpblty.	# of Forward Speeds	Turf Tire Option	Price	# of Dist.	Regional Limitations	Years in U.S. Market
540A	55	3	4490	2	540	1-3 pt. & Swinging Draw Bar	G or D	Yes	6 or 8	Yes	NA	Multiple	U.S.	64
445	47	3	4950	2	540	1-3 pt. & Swinging Draw Bar	G or D	Yes	6 or 8	Yes	NA	Multiple	U.S.	64
545	55	3	5000	2	540	1-3 pt. & Swinging Draw Bar	G or D	Yes	6 or 8	Yes	NA	Multiple	U.S.	64
Gravely Tractor Inc. 3505 Gravely Lane Clemmons, NC 27012 919-766-4721														
8122	12	1	900	4	1000	Bar Type-"U" Shaped	G	Yes	4	Yes	$3100	Direct	U.S.	65
8123	13	1	900	4	1000	Bar Type-"U" Shaped	G	Yes	4	Yes	$3500	Direct	U.S.	65
8163B	16	1	900	4	1000	Bar Type-"U" Shaped	G	Yes	4	Yes	$3900	Direct	U.S.	65
8179-KT	17	2	935	4	1000	Bar Type-"U" Shaped	G	Yes	4	Yes	$4500	Direct	U.S.	65
8199-KT	19	2	935	4	1000	Bar Type-"U" Shaped	G	Yes	4	Yes	$4900	Direct	U.S.	65
Hako North America Corp. 111 Bell St. West Babylon, NY 11704 516-420-8212														
2000G	20	2	1555	2	Constantw/ engine 825 gpm	3 pt.	G	Yes	5	Yes	$6064	Direct	NY Metro Area	6
2300D	20	3	1705	2	Constantw/ engine 825 gpm	3 pt.	D	Yes	5	Yes	$6800	Direct	NY Metro Area	6
3800D	42	4	2174	2	825 at Rv 3100 RPM	special Hydr. lift w/pin	D	Yes	3 variations-Hydro	Yes	$7000	Direct	NY Metro Area	6

Jacobsen, Div. of Textron Inc.
1721 Packard Ave.
Racine, WI 53403
414-637-6711

G20	46	3	3355	2	540	rigid or 3 pt.	D	Yes	6	Yes	$13,429	48w/25 Branches	U.S.	12

JI Case
700 State St.
Racine, WI 53404
414-636-6011

648	18	2	815	2	Front Mount for 3600 engine speed, high idle	3 pt.	G							

John Deere & Co.
John Deere Road
Moline, IL 61625
309-752-4459

650	14.5	2	1420	2	540	1-3 pt.	D	Yes	8	Yes	NA	2700	U.S.	63
650-4	14.5	2	1530	4	540	1-3 pt.	D	Yes	8	Yes	NA	2700	U.S.	63
750	18	3	1700	2	540	1-3 pt.	D	Yes	8	Yes	NA	2700	U.S.	63
750-4	18	3	1896	4	540	1-3 pt.	D	Yes	8	Yes	NA	2700	U.S.	63
850	22	3	2580	2	540	1-3 pt.	D	Yes	8	Yes	NA	2700	U.S.	63
950	27	3	2810	2	540	1-3 pt.	D	Yes	8	Yes	NA	2700	U.S.	63
950-4	27	3	3010	4	540	1-3 pt.	D	Yes	8	Yes	NA	2700	U.S.	63
1050	33	3	2933	2	540	1-3 pt.	D	Yes	8	Yes	NA	2700	U.S.	63
1050-4	33	3	3142	4	540	1-3 pt.	D	Yes	8	Yes	NA	2700	U.S.	63

Kubota Tractor Corporation
550 W. Artesia Blvd.
Compaton, CA 90220
213-537-2531

B5100	12	2	960	2 or 4	540/1000	1-3 pt.	D	Yes	6	Yes	NA	Direct (964 Dealers)	U.S.	11
B6100	14	3	945	2 or 4	540/1000/1500	1	D	Yes	6	Yes	NA	Direct	U.S.	11
B7100	16	3	1035	2 or 4	540/1000/1500	1	D	Yes	6	Yes	NA	Direct	U.S.	11
L185	17	2	1080	2 & 4	540/700/1000	1	D	Yes	6	Yes	NA	Direct	U.S.	11
245	25	3	2015	2 & 4	540/700/1000	1	D	Yes	6	Yes	NA	Direct	U.S.	11
245 High Clearance (Cultivator)	25	3	2572	2 & 4	540/700/1000	1	D	Yes	6	Yes	NA	Direct	U.S.	11
285	30	4	2785	2	540/700/1000	1	D	Yes	6	Yes	NA	Direct	U.S.	11
L295	30	3	3020	2 & 4	540/700/1000	1	D	Yes	6	Yes	NA	Direct	U.S.	11
305	30	3	2864	2 & 4	540/1000	1	D	Yes	6	Yes	NA	Direct	U.S.	11
345	34	4	2706	2 & 4	540/1000	1	D	Yes	6	Yes	NA	Direct	U.S.	11

Continues on page 36

DOW
DURSBAN
INSECTICIDE

WHY 9 OUT OF 10 LEADING LAWN CARE FIRMS USE DURSBAN
When the top 9 of 10 lawn care firms in America all choose DURSBAN* brand insecticides as their predominate insecticides for surface insect control...there has to be a good reason. Or two.
Well there are two.
1. DURSBAN insecticides last longest of all leading insecticides.
2. DURSBAN insecticides cost less to use than other leading insecticides.
In fact one application of DURSBAN 4E, ¾ oz. per 1,000 sq. ft., costs only about 45¢. Yet with this small amount, you get six to eight weeks of unsurpassed residual control of dozens of turf pests. Compare this to two to four weeks with any of the other leading insecticides.
And although DURSBAN insecticides are highly effective against insects, they are kind to turf, to people and to pets.
You also use a lower dosage rate with DURSBAN than with other leading insecticides. That means you handle fewer drums to do the job.
So ask your supplier for the turf insecticide that saves you time, trips, storage space and money. Ask for DURSBAN 2E insecticide or double-strength DURSBAN 4E insecticide. Just be sure to read and follow all label directions and precautions. Agricultural Products Department, Midland, Michigan 48640.
DOW
DOW CHEMICAL U.S.A.
*Trademark of The Dow Chemical Company
Circle No. 110 on Reader Service Card

TRACTORS
COMPACT UTILITY TRACTORS FOR GOLF AND LANDSCAPE

Manufctr. & Model	H.P.	Cylin-ders	Weight	Two or Four Wheel Drive	PTO Speeds (RPM)	Hitch Type	Gas or Diesel (G or D)	Hydraulic Attchmnt. Cpblty.	# of Forward Speeds	Turf Tire Option	Price	# of Dist.	Regional Limitations	Years in U.S. Market
Long Manufacturing N.C. Inc. Box 1139 Tarboro, NC 27886 919-823-4151														
260-C	24	2	3180	2	540	1-3 pt.	D	Yes	6	Yes	$5472	7 Branches	U.S.	38
310-C	28	2	3195	2	540	1-3 pt.	D	Yes	6	Yes	$6542	7 Branches	U.S.	38
360-C	35	3	3630	2	540	1-3 pt.	D	Yes	6	Yes	$6958	7 Branches	U.S.	38
Massey-Ferguson 1901 Bell Ave. Des Moines, IA 50315 515-247-2015														
MF205	16	2	1500	2	540	1 (narrow)	D	Yes	6	Yes	$6160	Direct 7 Regional Sales)	U.S.	34
MF205-4	16	2	1850	4	540	1	D	Yes	6	No	$6850	Direct	U.S.	34
MF210	21	2	1970	2	540	1	D	Yes	12	Yes	$7160	Direct	U.S.	34
MF210-4	21	2	2260	4	540	1	D	Yes	12	No	$8066	Direct	U.S.	34
MF220	26	2	2310	2	540	1	D	Yes	12	Yes	$8350	Direct	U.S.	34
MF220-4	26	2	2710	4	540	1	D	Yes	12	No	$10,222	Direct	U.S.	34
MF230	34	3	3625	2	540	1	D	Yes	6	Yes	$11,577	Direct	U.S.	34
MF245	42	3	3760	2	540	1	D	Yes	6/8/12	Yes	$15,063 (8 speed)	Direct	U.S.	34
MF255	52	4	4900	2	540	1	D	Yes	8 & 12	Yes	$16,133 (8 speed)	Direct	U.S.	34
Snapper Tractor McDonough Power Equipment 535 Macon Rd. McDonough, GA 30253 404-957-9141														
1600	16	1	910	2	2000	Sleeve	G	No	3	Yes	NA	85	U.S.	81
1650	16	1	974	2	2000	0-3 pt.	G	Yes	Inf.-Hydro	Yes	NA	85	U.S.	81
1855A	18	2	1022	2	2000	0-3 pt.	G	Yes	Inf.-Hydro (w/memory setting)	Yes	NA	85	U.S.	81
Pasquali-USA Inc. 116 Paoli St. Verona, WI 53593 608-845-6438														
986	21	1	2000	4	760/540	3 pt., drawbar, or 2 pt.	D	Yes	9	Yes	NA	100	U.S.	4

Continued

Continues on page 38

"Mitsubishi tractors-the tough team that's never sidelined."

Bum Phillips, Head Coach, New Orleans Saints

In my business, I demand pro performance, the first time and everytime. That's why I want to tell you about the Mitsubishi line of two and four-wheel, mid-size tractors. Tractors built tough, to tackle all your landscaping and turf maintenance jobs, reliably and economically year after year.

Whether it's the compact Beaver, the economical Bison Diesel or the 38 hp, rugged Stallion, all Mitsubishi tractors can handle the implements you need for mowing, loading, grading, snow removal and lots more. And Mitsubishi's multi-cylinder, water-cooled, diesel engines keep fuel consumption low and performance consistently high.

Designed with you, the grounds maintenance professional in mind, Mitsubishi tractors have tough-job features like a differential lock for greater traction, live hydraulics for really accurate implement control and multi-speed PTO for equipment flexibility.

Bison Diesel
30 hp

So, as one pro to another, if quality performance is the name of your game, check out the winning team of mid-size tractors built by the pros—Mitsubishi.

MITSUBISHI

Built by the PROS

For more information, see the yellow pages for your local dealer or write to Sumitomo Corp., Mitsubishi Tractor Division, 345 Park Ave., New York, NY 10154, (212) 935-8826.

Circle No. 123 on Reader Service Card

TRACTORS
COMPACT UTILITY TRACTORS FOR GOLF AND LANDSCAPE

Pasquali-USA *continued*

Manufctr. & Model	H.P.	Cylin-ders	Weight	Two or Four Wheel Drive	PTO Speeds (RPM)	Hitch Type	Gas or Diesel (G or D)	Hydraulic Attchmnt. Cpblty.	# of Forward Speeds	Turf Tire Option	Price	# of Dist.	Regional Limitations	Years in U.S. Market
991	24	1	2000	4	760/540	3 pt., drawbar, or 2 pt.	D	Yes	9	Yes	NA	100	U.S.	4
993	30	2	2000	4	760/540	3 pt., drawbar, or 2 pt.	D	Yes	9	Yes	NA	100	U.S.	4
997	35	2	2000	4	760/540	3 pt., drawbar, or 2 pt.	D	Yes	9	Yes	NA	100	U.S.	4
979	50	2	2400	4	760/540	3 pt., drawbar, or 2 pt.	D	Yes	9	Yes	NA	100	U.S.	4
971 38L	38	2	2000	4	760/540	3 pt., drawbar, or 2 pt.	D	Yes	9	Yes	NA	100	U.S.	4
970	35	2	2000	4	760/540	3 pt., drawbar, or 2 pt.	D	Yes	9	Yes	NA	100	U.S.	4

Satoh-Mitsubishi Tractors
22H Craigwood Rd.
Avenel, NJ 07001
201-388-7888

S370	15	2	1000	2	537/791/1297	0 & 1	D	Yes	6	Yes	$4500	16	U.S.	12
S370-4	15	2	1200	4	537/791/1297	0 & 1	D	Yes	6	Yes	$5000	16	U.S.	12
S373	16.5	2	1100	2	565/832/1364	1	D	Yes	6	Yes	$5200	16	U.S.	12
S373-4	16.5	2	1220	4	565/832/1364	1	D	Yes	6	Yes	$5600	16	U.S.	12
S470	18.5	3	1547	2	544/802/1314	1-3 pt.	D	Yes	6	Yes	$5600	16	U.S.	12
S470-4	18.5	3	1268	4	544/802/1314	1-3 pt.	D	Yes	6	Yes	$6000	16	U.S.	12
S630	25	2	2000	2	555/774/1025/ 1320	1	D	Yes	9	Yes	$6600	16	U.S.	12
S630-4	25	2	2100	4	555/774/1025	1	D	Yes	9	Yes	$7600	16	U.S.	12
S670	30	4	2300	2	540/1000	1	D	Yes	6	Yes	$9800	16	U.S.	12
S670-4	30	4	2700	4	540/1000	1	D	Yes	6	Yes	$11,200	16	U.S.	12
S750D	38	3	3150	2	540/1000	1	D	Yes	9	Yes	$10,000	16	U.S.	12
S750D-4	38	3	3440	4	540/1000	1	D	Yes	9	Yes	$12,800	16	U.S.	12

Wheel Horse Products
515 W. Ireland Rd.
South Bend, IN 46614
219-291-3112

C-175	17	2	620	2	Belt (No PTO)	Clevis	G	No	6	Yes	$3145	Direct (Except OH & PA)	U.S.	30

Continued

Continues on page 40

Circle No. 136 on Reader Inquiry Card

TECUMSEH
Symbol of Value

Throughout the world the familiar indianhead trademark has come to mean engineering excellence, product reliability and responsible business conduct.

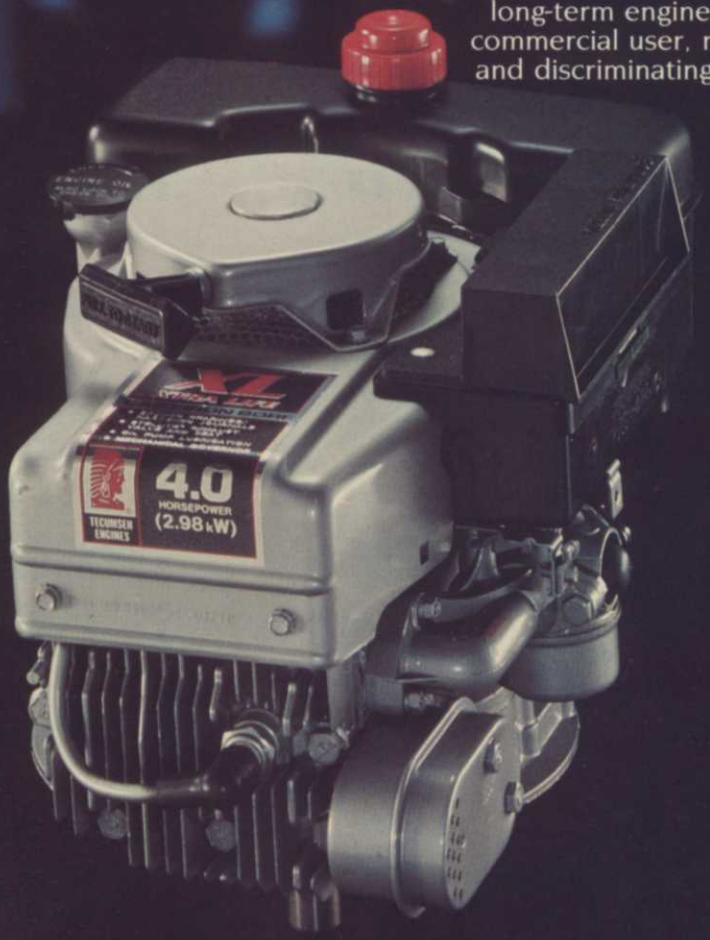
Tecumseh's dedication to product quality is clearly expressed in the construction features of the Model TVS105XL (xtra life) heavy duty commercial rotary mower engine.

The TVS105XL design embodies components of proven durability - -
Cast Iron Cylinder Liners,
Bronze Main Bearings,
Hardened Crankshaft Journals,
Solid State Ignition,
Twin Element Air Cleaners

Components and design so rugged that in-warranty time has been extended to eighteen months.

Easy topside accessibility encourages routine maintenance.

Tecumseh's TVS105XL - Today's better long-term engine value for the commercial user, rental service, and discriminating homeowner.



TECUMSEH PRODUCTS COMPANY — ENGINE DIVISIONS
GRAFTON and NEW HOLSTEIN, WISCONSIN

TRACTORS

COMPACT UTILITY TRACTORS FOR GOLF AND LANDSCAPE

Wheel Horse continued

Manufctr. & Model	H.P.	Cylin-ders	Weight	Two or Four Wheel Drive	PTO Speeds (RPM)	Hitch Type	Gas or Diesel (G or D)	Hydraulic Attchmnt. Cpblty.	# of Forward Speeds	Turf Tire Option	Price	# of Dist.	Regional Limitations	Years in U.S. Market
C-175 Automatic	17	2	650	2	Belt (No PTO)	Clevis	G	Yes	Inf.	Yes	$3695	Direct (Except OH & PA)	U.S.	30
D-160	16	2	815	2	2000	0	G	Yes	Inf.	Yes	$4195	Direct (Except OH & PA)	U.S.	30
White Farm Equipment 2625 Butterfield Rd. Oak Brook, IL 60521 312-887-0110														
230	28.3	3	2774	Both	540	1	D	Yes	8	Yes	NA	NA	U.S.	3
235	32.8	3	2939	2	540	1	D	Yes	8	Yes	NA	NA	U.S.	3
245	43.5	4	5000	Both	540	1 & 2	D	Yes	20	No	NA	NA	U.S.	2
Yanmar Tractor Company-USA 476 Country Club Drive Bensenville, IL 60106 312-860-5370														
YM-135	13	2	1090	2 or 4	540/770	Short-1	D	Yes	6	Yes	NA	Direct	U.S.	5
YM-155	15	2	1145	2 or 4	540/770	1	D	Yes	6	Yes	NA	Direct	U.S.	5
YM-165	16	2	1213	2 or 4	540/1000	1	D	Yes	6	Yes	NA	Direct	U.S.	5
YM-186	18	3	1530	2 or 4	540/1000	1	D	Yes	9	Yes	NA	Direct	U.S.	5
YM-195	19	2	1840	2 or 4	540/1000	1	D	Yes	8	Yes	NA	Direct	U.S.	5
YM-240	24	2	1960	2 or 4	540/1000	1	D	Yes	8	Yes	NA	Direct	U.S.	5
YM-226	22	3	1485	2 or 4	540/1000	1	D	Yes	9	Yes	NA	Direct	U.S.	5
YM-276	27	3	2330	2 or 4	540/1000	1	D	Yes	12	Yes	NA	Direct	U.S.	5
YM-336	33	3	2900	2 or 4	540/1000	1	D	Yes	12	Yes	NA	Direct	U.S.	5
Yard Man Company Box 36900 Cleveland, OH 44136 216-273-3600														
132786	16	2	760	Trans-axle	None (snowblower)	Sleeve	G	Yes	Inf.-Hydro	No	NA	NA	U.S.	24
142824	16	2	755	Trans-axle	None (snowblower)	Sleeve	G	No	4	No	NA	NA	U.S.	24
142836	18	2	760	Trans-axle	None (snowblower)	Sleeve	G	No	3	No	NA	NA	U.S.	24
142990	16	1	968	Hydro-stat	None	3 pt.	G	Yes	Inf.-Hydro	No	NA	NA	U.S.	24

PEOPLE LOOK UP TO HI-RANGER.

"I ought to know. During my 14 years in utility maintenance, and even now as supervisor, I've worked hundreds of hours in the baskets of aerial manlifts. We've found Hi-Rangers provide consistently dependable performance, low maintenance, and long life. That's why now, all of our crews work in Hi-Rangers from Mobile Aerial Towers, Inc."

"Mobile Aerial Towers, Inc., is number one in their industry. That means something. Because we count on them to get us up to the job, day after day, and year after year."

Hi-Ranger aerial towers meet the "American National Standard for Vehicle-Mounted Elevating and Rotating Aerial Devices ANSI A92.2-1979."

"I first got interested in Hi-Rangers when they developed their superior 3-D handle control. It was the best then and it's the best now, nearly thirty years later."

Mobile Aerial Towers, Inc., 2314 Bowser Avenue
P.O. Box 11647, Department N, Fort Wayne, IN 46859

Circle No. 124 on Reader Service Card

REPLACEMENT OF PESTICIDE DRUMS WITH BULK CONTAINERS IS GROWING

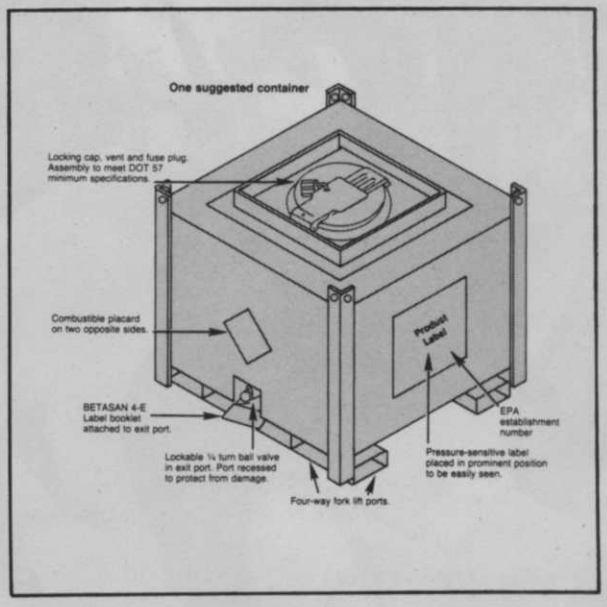
By Herb Day, Manager of Specialties, Stauffer Chemical Company, Agricultural Chemical Division

Bulk handling of pesticides is an idea whose time has come for lawn care companies. The use of mini-bulk containers in place of drums has been accepted readily by farmers since their introduction almost six years ago. The advantages far outweigh any possible disadvantages, providing the manufacturers, distributors and users follow the guidelines and regulations established by the EPA and DOT.

What is known as bulk handling is really a mini-bulk handling program for distributing liquid pesticides—primarily herbicides—from the distributor to the lawn care company or other users.

The basic manufacturer or formulator transports the pesticide in bulk to a transfer area where the product is pumped into the mini-bulk tanks. These tanks are portable and can be moved to and from the formulator or by the lawn care companies in place of the five and 55 gallon drums used previously. Some lawn care companies will be considering larger stationary tanks—1,000 gallons to 2,000 gallons. These tanks do not have to meet the DOT specifications of the portable mini-tanks but their use is subject to all other regulations and the construction should be compatible with the product to be placed in them. Our Betasan 4-E will be available in mini-bulk in 1982.

Usually mini-bulk tanks are between 150 and 300 gallons. DOT-57 contains the government regulations spelling out the minimum requirements for mini-bulk tanks. (See special section below on DOT-57).


One suggested container
Locking cap, vent and fuse plug. Assembly to meet DOT 57 minimum specifications.
Combustible placard on two opposite sides.
Product Label
BETASAN 4-E Label booklet attached to exit port.
EPA establishment number
Lockable ¼ turn ball valve in exit port. Port recessed to protect from damage.
Pressure-sensitive label placed in prominent position to be easily seen.
Four-way fork lift ports.

Advantages

- Eliminates drum handling and disposal.
- Keeps a pesticide in one container and in one area.
- Improves accuracy in measuring because of metered pump attached to tank.
- Lends itself to a closed system handling of pesticides.

Disadvantages

- Initial outlay for one or more tanks.
- Need for a separate storage area for tanks (maybe).
- May have to buy more chemical at one time than may be needed.

The advantages appear to outweigh the disadvantages as those who are using the mini-bulk system have discovered.

If you are considering going to mini-bulk handling the following will be helpful:

First of all, determine if the liquid pesticides you are or will be using are available for mini-bulk handling. Then purchase or lease the tank or tanks you need. The tanks have to meet DOT regulations (see below) which specifies metal tanks only.

- Determine if the tanks you purchase are compatible with the products you plan to put in them. The manufacturer or formulator should be able to give you guidance.
- Determine where your tanks will be located. If you purchase tanks and have them filled by your supplier at your location, you must have your tank location registered with EPA as an EPA pesticide establishment. If you only receive full tanks at your location, and only store the tanks there for your company's use as you would 55 gallon drums, your location does not have to be registered with EPA.
- Determine the size of the mini-tanks you need. DOT regulations state that the tanks must be between 110 and 660 gallons. The most popular sizes are 125, 200, 250 and 300 gallons. These tanks usually have about the same width and length and differ only in height to accommodate the added capacity.
- The DOT-approved tanks have a built-in or attached metering pump which can deliver the amount of product in a more efficient manner than can be accomplished by tipping a 55 gallon drum and measuring into a bucket.

Continues on page 44

WE REACH THE PEOPLE YOU NEED TO REACH!

Place a recruitment ad in any of these HARCOURT BRACE JOVANOVICH PUBLICATIONS - and you know your ad dollar is wisely spent.

HBJ PUBLICATIONS does a better job of reaching those who count *(your potential employees)* than any other business publisher.

Magazine	Circulation
Body Fashions/Intimate Apparel	10549
Dental Laboratory Review	17184
Dental Management	96222
Drug & Cosmetic Industry	7500
Electronic Technician/Dealer	49096
Fast Service	50537
Flooring	22000
Food Management	49963
Hearing Instruments	16592
Home & Auto	22303
Hotel & Motel Management	36023
Housewares	12800

Magazine	Circulation
LP/Gas	13758
Lawn Care Industry	12648
Neurology	12032
Paper Sales	12200
Pest Control	14498
Professional Remodeling	32995
Quick Frozen Foods	20750
Rent All	11139
Roofing/Siding/Insulation	18394
Snack Food	9200
Toys, Hobbies & Crafts	13607
Weeds Trees & Turf	42677

Don't forget that classified advertising works just as effectively in locating employees as it does if you are looking for a position, have a line, machinery or a business to sell, are seeking representatives or wish to buy a specific item. Let it go to work for you!

HBJ PUBLICATIONS - COUNT ON US TO REACH THOSE WHO COUNT!

HBJ

Harcourt Brace Jovanovich Publications
One East First Street
Duluth, Minnesota 55802

Call Dawn Anderson at 218-727-8511

Bulk *from page 42*

There are several tank manufacturers making DOT-approved tanks. These include:

- Green Hills, Inc.
- Progress Industries
- Heartland Chemical Co.
- Hoover Universal Tote Systems

Some plastic tanks are being used where DOT-57 specifications are not required (as for liquid fertilizer). Two companies who produce these tanks are Snyder Industries and Poly Processing Co. The advantages of poly tanks are lighter weight and lower cost. Both companies are trying to get an exemption from DOT to permit the use of their tanks for combustible products including pesticides.

While mini-tanks do not have to be dedicated strictly to a specific product, they should be cleaned out thoroughly before switching to another product. Usually a good flushing with water will do an acceptable cleaning job. This rinse water can then be put in the spray tank and used. The filling cap on the tank should be kept locked at all times to prevent any contamination.

Determine what local fire codes might apply to the storage of pesticides in mini-bulk tanks and follow their regulations. You may already be complying with local codes with your present pesticide storage.

When the regulations are followed, from EPA-established registration to the use of approved tanks, lawn care companies will find that the handling procedures will simplify and improve their operations.

The distributor or formulator who sells the lawn care company also has responsibility to comply with the regulations under DOT, OSHA and EPA.

If he is supplying the mini-bulk tanks, it is his obligation to see that they conform to DOT 57. If he is filling mini-tanks owned by the user, he must be sure that the mini-tanks have both the proper pesticide label and the DOT 57-approved metal certification plate affixed to the tank. If he is filling the tanks at the lawn care company's location, he must be sure the location is an EPA-registered establishment.

DOT 57 Main Points

These specifications apply to tanks of any shape:

Continues on page 46

Northrup King seed has been delivering results for years.

But that's not news to you.

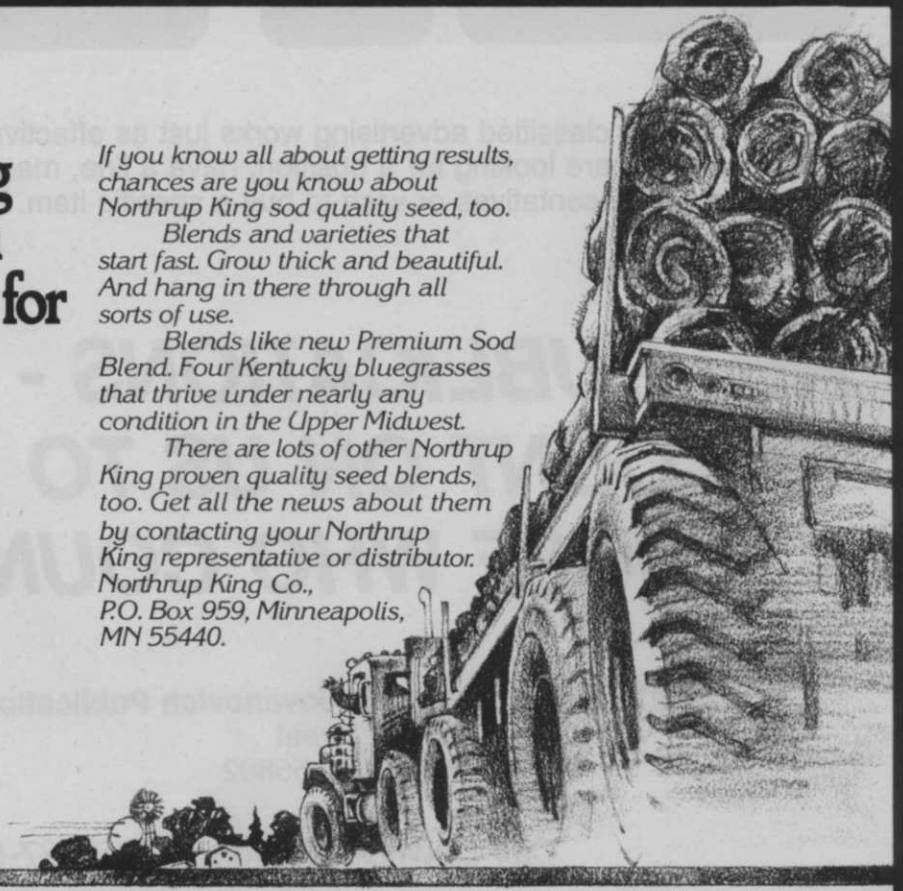
If you know all about getting results, chances are you know about Northrup King sod quality seed, too.

Blends and varieties that start fast. Grow thick and beautiful. And hang in there through all sorts of use.

Blends like new Premium Sod Blend. Four Kentucky bluegrasses that thrive under nearly any condition in the Upper Midwest.

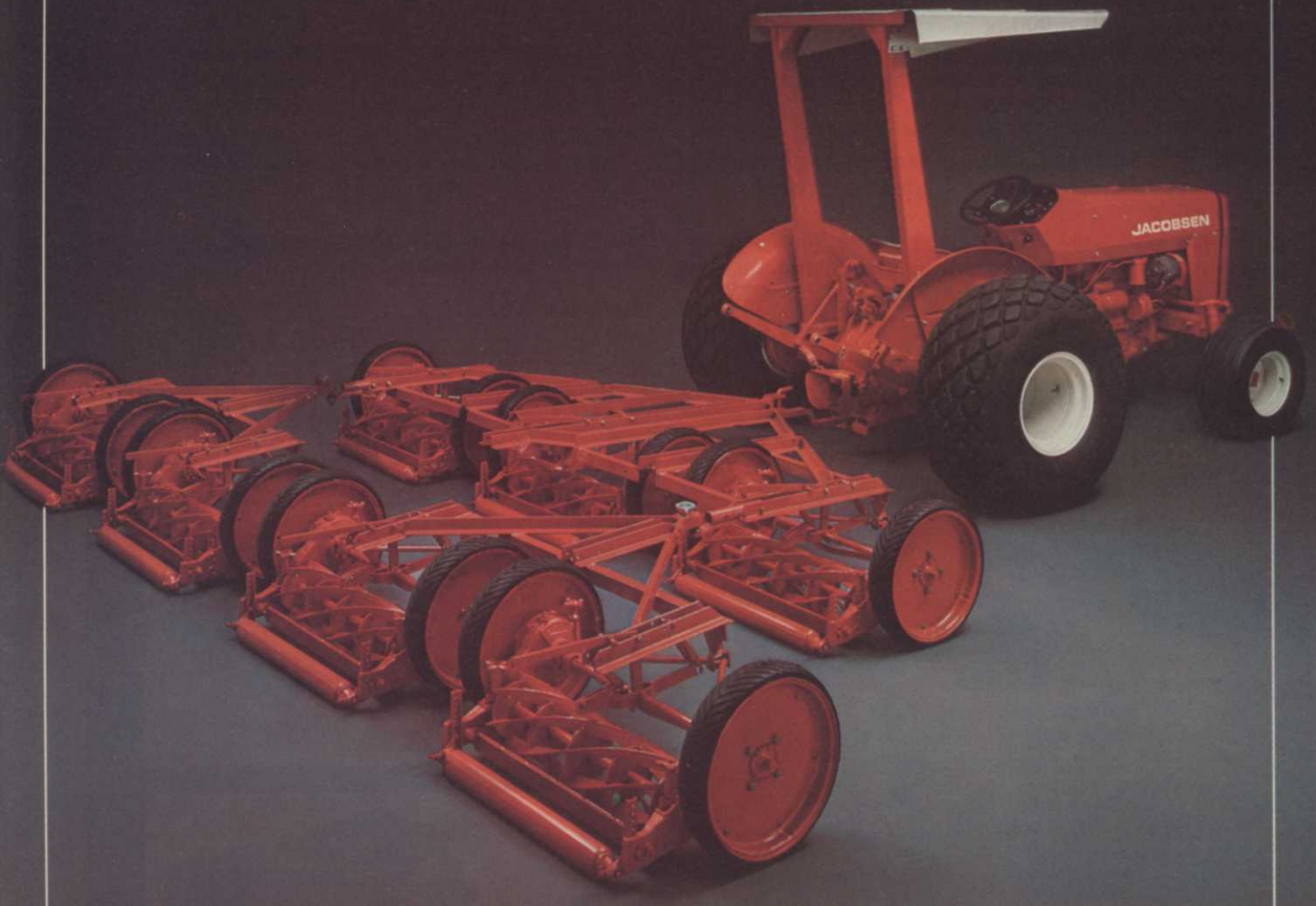
There are lots of other Northrup King proven quality seed blends, too. Get all the news about them by contacting your Northrup King representative or distributor. Northrup King Co., P.O. Box 959, Minneapolis, MN 55440.

NK NORTHRUP KING



Circle No. 127 on Reader Inquiry Card

You just can't buy better gang mowers.



It's been proven time and again, day after day, acre after acre. You just can't buy better cutting gang mowers. For a very convincing demonstration, call your Jacobsen Distributor.

JACOBSEN
TEXTRON

Jacobsen Division of Textron Inc.

Circle No. 117 on Reader Service Card

Jacobsen: You just can't buy any better.

Bulk *from page 44*

- Except for gaskets, pressure relief devices, valve sets, liners and linings, all construction material must be metal.
- Any material used must not be susceptible to stress corrosion cracking.
- Tanks must pass a series of tests including: design qualification testing; vibration and drop tests; structural integrity tests, for lifting devices, stocking support devices and fitting and protective devices; and production quality control testing and inspection.
- Each tank must have a capacity of at least 110 gallons but not more than 660 gallons.
- Each fill and discharge opening must be equipped with the proper closure device. Closures for a fill opening in excess of 20 square inches must be equipped with a device to prevent the closure from fully opening without first relieving internal pressure.
- Each fitting which could be damaged sufficiently to result in leakage of tank contents must be protected by suitable guards or protective housings.
- Each tank must be equipped with at least one pressure relief device such as a spring-loaded valve, frangible disc or fusible plug. **WTT**

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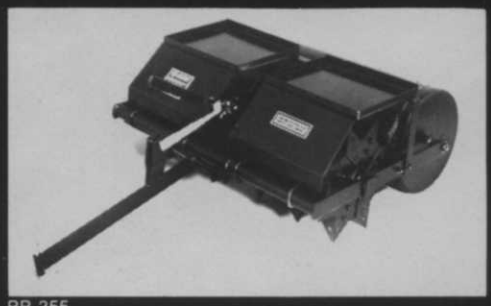

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IBDU (31-0-0) is ideally suited for dormant nitrogen fertilization. Because of it's slow release characteristics based on hydrolysis, IBDU releases nitrogen later in the fall and earlier in the spring promoting better rhizome and root growth. A fall fertilizer program using IBDU should produce healthier more vigorous turfgrass plants and reduce the severity of several turfgrass diseases.

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Circle No. 111 on Reader Service Card

VEGETATION MANAGEMENT

By Roger Funk, Ph.D., Davey Tree Expert Co., Kent, Ohio

Q: *Hybrid poplars planted in a development area have grown rapidly and sent out strong feeder roots which are lifting the curbs and sidewalks and erupting in blacktop areas. They also clog water and sanitary systems. The feeder roots seeking nourishment send out new leaf systems which erupt in lawns and driveways causing considerable damage.*

We can not spray systemic herbicide because of wind drift and our only alternative seems to be to remove these trees. Other than girdling the tree, is there any injection that you could recommend to kill the tree and its damaging root system? If so, how long will the killing process take? (New York)

A: Garlon 3A, produced by Dow Chemical, is effective on poplars and can be used with the frill or girdle method or trunk injection on existing trees or as a stump treatment to the cambium immediately after cutting. All of these techniques are included on the label as cut surface treatments in right-of-way, other non-crop areas and forests to kill unwanted trees. As a precaution, you should not treat trees in close proximity to desirable trees, since, although Garlon 3A has a low potential for root transmission, all cut surface treatment chemicals may be passed through connecting root systems into adjacent trees.

Trees treated before bud break are normally dead by mid-June. Results from summer application may take longer but the effect can be seen on the outermost leaves in two to three weeks.

For more detailed information, contact your local cooperative extension agent or Dow Chemical representative.

Q: *I realize this is not your normal technical question but could you tell me how to remove grass stains from children's clothes? Some of our clients feel that, since we are in the lawn care business, we have all the answers.*

A: According to the American Institute of Laundering, the best way to remove grass stains from white fabrics is by a thorough washing with detergent and an ordinary household bleach. For colored fabric or wool, use denatured or rubbing alcohol. Place the stain face down on a clean rag or paper towel, pour the alcohol through the fabric and tamp it with your fingers. Move the stained area to a clean spot on the absorbent material and repeat the process until the stain disappears.

Q: *Is it better to dethatch in the spring or fall? (Pennsylvania)*

A: Cool-season turfgrasses should have a least a 30-day period of favorable growth conditions following mechanical dethatching. Both early spring and late summer are recommended, although spring may be less desirable because of the potential for summer heat and drought stress before the turfgrass fully recuperates and the increased potential for crabgrass.

Q: *How important are mycorrhizae in the growth of trees?*

A: There is much evidence that mycorrhizal fungi and roots of trees exist symbiotically. The tree supplies carbohydrates and other metabolized compounds beneficial to the fungus, and the fungus increases the absorption of nitrogen, phosphorus and other nutrients. There is also evidence that the nycorrhizal fungi protects the tree from pathogenic fungi by acting as a physical barrier and by secreting fungistatic substances.

Although trees can grow successfully without mycorrhizae in soils with high fertility, they appear to grow much better with mycorrhizae.

Q: *Every year many of our client's lawns turn brown in the summer and we have trouble justifying a continuation of the program. Is summer dormancy caused by heat or moisture stress? If clients watered, would their lawns stay green? Most of the lawns are Kentucky bluegrass or mixture of bluegrass and fine fescue.*

A: Summer dormancy is controlled mainly by the availability of water in most cool-season turf grasses, including Kentucky bluegrass and red fescue. Watering not only provides an adequate level of available moisture but also helps cool the turfgrass through evapotranspiration.

Q: *What is your opinion of reseeding bluegrass lawns every year as practiced by some local lawn care companies? (Massachusetts)*

A: Kentucky bluegrass is by nature self-renewing. Annual seeding into an existing lawn is almost always a waste of time unless bare spots are larger than about 8 inches in diameter. Your time and money are better spent improving growth conditions for existing grass.

Comment: Regarding my response to a reader inquiry on oil sprays which appeared in the August 1981 column, more recent information indicates that the caution statements on temperature are unnecessary.

Dr. Johnson reiterated his findings at the recent International Society of Arboriculture meeting in Boyne Falls, Michigan. He also feels that it is doubtful if there are any deciduous trees sensitive to lightsuperior oil if the dosages are in line with prescribed rates and the plants are not under moisture stress. For more detailed information, read Dr. Warren Johnson's article entitled "Spray Oils as Insecticides" which appeared in the July 1980 issue of the Journal of Arboriculture.

If any readers are aware of injury from superior oil which was applied properly, please let me know.

Send your questions or comments to: Vegetation Management c/o WEEDS TREES & TURF, 757 Third Avenue, New York, NY 10017. Leave at least two months for Roger Funk's response in this column.

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Elka was developed by CEBECO Handelsraad.

PGA *from page 25*

The crew spent much of its time in 1980 pruning trees damaged by ice in previous winters and planting more trees. More than 6,000 annuals were planted to improve the color of the course and clubhouse area. The dam to the holding pond was decorated with plants to spell out 1981 PGA. Television crews used this shot frequently during coverage.

Additional drainage helps the course survive rain before and during the tournament.

Help from his friends

The vast job to prepare for the tournament required a good staff and some help from former staffers. Ganley's staff or 24 included assistant superintendent Dave Nugent, a turf graduate of Mississippi State University; John Feruchie of Florida's Lake City Community College; and Mike Martin of North Carolina's Catawba Valley Technical College. From Forest Oaks, on a temporary basis, came Frank Harris and Kent Southern, both from North Carolina State University.

Bidding for more

The Atlanta Athletic Club has already submitted bids for the U.S. Open in 1987 and the PGA in 1991. With Ganley's help it stands a good chance of getting the tournaments.

Tournaments are a business which makes money. This profit can be funnelled back into the course for improvements and expansion. The club members benefit, the professional golfers benefit, and the superintendent can better justify needed improvements to his course. It is a business where the superintendent's value is clearly visible.

On the other hand, superintendents have been known to lose their jobs following tournaments where the Club and Tournament Committee were disappointed. It's a high stakes game which all superintendents and their families may not want to play. Superintendents work long hours as it is.

As in Ganley's case, the Club must understand that additional, well-trained staff are needed in the months prior to a tournament. It must reward the superintendent for his heavier load. And, it must work with the PGA, the USGA, and perhaps the GCSAA to assure a playable and presentable course for the big moment. **WTT**

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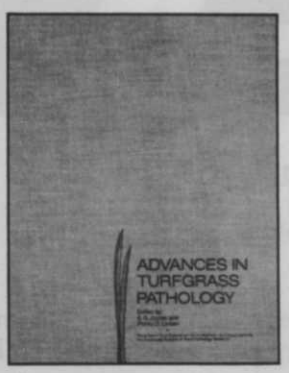

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EVENTS

The current issue of WEEDS TREES & TURF carries meeting dates beginning with the following month. To insure that your event is included, please forward it, 90 days in advance, to: WEEDS TREES & TURF Events, 757 Third Ave., New York, NY 10017.

International Society of Arboriculture, New England Chapter, Annual Meeting, Sheraton-Wayfarer Inn, Bedford, NH, **Oct. 18-20.** Contact Oscar Stone, Editor, 84 Daniel Drive, New Haven, CT 06513.

Interior Plantscape Association Third Annual Conference & Trade Show, Radisson Hotel, St. Paul, MN, **Oct. 28-30.** Contact IPA National Headquarters, 11800 Sunrise Valley Drive, Reston, VA 22091, 703/476-8550.

Professional Grounds Management Society Annual Conference and Trade Show, Marriott Hotel, Portland, OR, **Oct. 31-Nov. 4.** Contact Allan Shulder, Executive Director, Professional Grounds Management Society, 7 Church Lane, Pikesville, MD 21208, 301/653-2742.

11th Annual Educational and Turf Management Conference, Radisson Muehlebach Hotel, Kansas City, MO, **Nov. 1-6.** Contact National Institute, P.O. Box 1936, Appleton, WI 54913, 414/733-2301.

Associated Landscape Contractors of America, Landscape Maintenance Symposium, **Nov. 2-4.** Contact ALCA, 1750 Old Meadow Road, McLean, VA 22102, 703/821-8611.

All Industry Education Week Specialized Seminars, Hyatt Regency Fort Worth, Fort Worth, TX, **Nov. 2-5.** Contact Lynn Davis, SAF Education Department, Society of American Florists, 901 North Washington Street, Alexandria, VA 22314, 703/836-8700.

Horticultural Tour to Australia and New Zealand, **Nov. 2-24.** Contact Lanny E. Walker, Public Relations Director, California Association of Nurserymen, 1419 21st Street, Sacramento, CA 95814, 916/448-2881.

21st Annual Missouri Lawn and Turf Conference, Ramada Inn, 110 Vandiver Drive, Columbia, MO, **Nov. 3-4.** Contact Nicholas Palo or Cathy Martin, Conference and Short Courses, 344 Hearnes Building, University of Missouri, Columbia, MO 65211, 314/882-7838.

Turfgrass Insect Minicourse, Virginia Beach, VA, **Nov. 3-5.** Contact Cooperative Extension Service, Virginia Polytechnic Institute and State University, Patton Hall, Blacksburg, VA 24061, 703/961-6491.

Virginia Polytechnic Institute and State University, Turfgrass Insect Minicourse, Virginia Beach, VA. **Nov. 3-5;** Turfgrass Herbicide Minicourse, Blacksburg, VA, **Nov. 9-11;** Landscape Management Minicourse, Blacksburg, VA, **Nov. 11-13.** Contact Cooperative Extension Service, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061.

Continues on page 54

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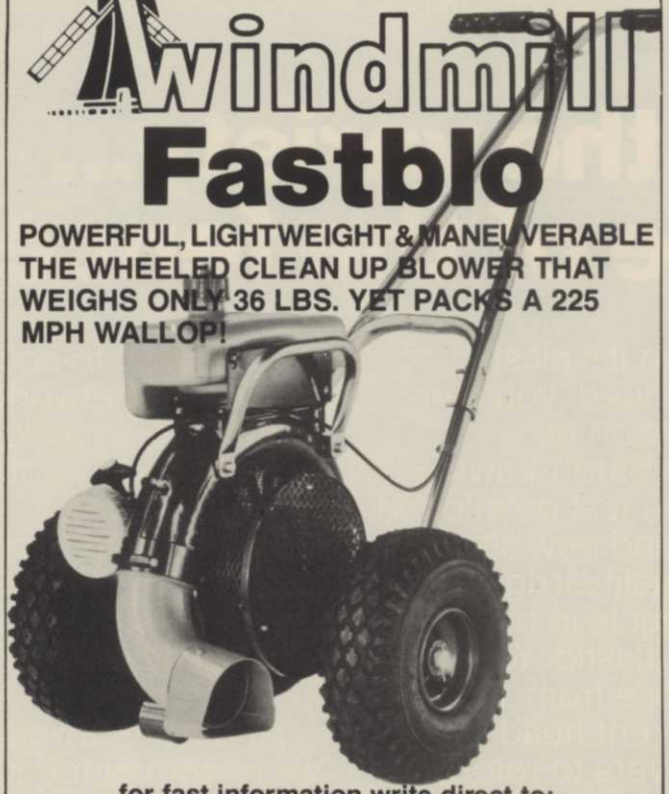

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Events *from page 52*

Green Industry Seminar and Trade Show, Michigan State Fairgrounds, Detroit, MI, **Nov. 4-5.** Contact Gregory Patcham, Michigan State University, Cooperative Extension Service, North Office Building, Pontiac, MI 48053, 313/858-0887.

Atlantic Seedsmen's Association Convention, Biltmore Plaza, Providence, RI, **Nov. 4-6.** Contact Executive Secretary Margaret Herbst, 230 Park Avenue, New York, NY 10017.

Washington State Weed Association annual meeting, Convention Center, Yakima, WA, **Nov. 4-6.** Contact Timothy Smith, Secretary, Washington State Weed Association, c/o Grant-Adams Cooperative Extension, Courthouse, Ephrata, WA 98823, 509/754-2011.

California Landscape Contractors' Association Annual Convention, Frontier Hotel, Las Vegas, NV, **Nov. 5-8.** Contact CLCA, 1419 21st Street, Sacramento, CA 95814, 916/448-CLCA.

Thirty-Second Annual Southern Turfgrass Conference and Show, Hilton Hotel, Baton Rouge, LA, **Nov. 8-10.** Contact Dr. G. Euel Coats, Southern Turfgrass Association, Drawer CP, Mississippi State, MS 39762, 601/325-3138.

Herbicide Action, Intensive Course, Purdue University, West Lafayette, IN, **Nov. 8-13** and **Nov. 15-20.** Contact Continuing Education Business Office, Room 110, Stewart Center, Purdue University, West Lafayette, IN 47907.

Turfgrass Herbicide Minicourse, Blacksburg, VA, **Nov. 9-11.** Contact Cooperative Extension Service, Virginia Polytechnic Institute and State University, Patton Hall, Blacksburg, VA 24061, 703/961-6491.

The Irrigation Association Annual Convention, Honolulu, HI, **Nov. 9-13.** Contact Tom Schiltz, Director Technical Services, The Irrigation Association, 13975 Connecticut Avenue, Silver Spring, MD 20906, 301/871-1200.

15th Annual Clemson Turfgass Conference, Clemson University, Clemson, SC, **Nov. 10-11.** Contact Dr. Landon C. Miller, Clemson University, Dept. of Horticulture, Room 161, P&AS Building, Clemson, SC 29631, 803/656-3403.

Dollar Management Seminar, Salt Lake City, UT, **Nov. 12-13.** Contact ALCA, 1750 Old Meadow Road, McLean, VA 22102, 703/821-8611.

Continues on page 58

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New Jersey Shade Tree Federation, Annual Meeting, Golden Eagle Inn, Cape May City, NJ, **Nov. 14-16.** Contact William Porter, New Jersey Shade Tree Federation, P.O. Box 231, New Brunswick, NJ 08903, 201/246-3210.

New York State Turfgrass Association Conference & Trade Show, Albany, NY, **Nov. 16-19.** Contact Ann Reilly, NYSTA, 210 Cartwright Blvd., Massapequa Park, NY 11762, 516/541-6902.

1981 New York State Turfgrass Conference and Trade Show, Empire State Plaza, Albany, NY, **Nov. 17-18.** Contact Janet Worthington Dudones, Ed Worthington Corp., 50 Petrova Ave., Saranac Lake, NY 12983, 518/891-1830.

Landscape Management Minicourse, Blacksburg, VA, **Nov. 18-20.** Contact Cooperative Extension Service, Virginia Polytechnic Institute and State University, Patton Hall, Blacksburg, VA 24061, 703/961-6491.

Second Annual Convention and Trade Show of the Professional Lawn Care Association of America, Commonwealth Convention Center, Louisville, KY, **Nov. 18-20.** Contact Jane Stecker, Administrative Director, PLCAA, Suite 1717, 435 N. Michigan Ave., Chicago, IL 60611.

Christmas Nursery Retail Tour, Southern California, **Nov. 19.** Contact Lanny E. Walker, Public Relations Director, California Association of Nurserymen, 1419 21st Street, Sacramento, CA 95814, 916/448-2881.

American Society of Landscape Architects 81st Annual Meeting, Washington Hilton, Washington, D.C., **Nov. 21-24.** Contact William Oyler, ASLA, Suite 750, 1900 M Street NW, Washington, DC 20036 (202) 466-7730.

12th Annual GCSA/University of Georgia Turfgrass Short Course, Athens, GA, **Nov. 23-24.** Contact George M. Kozelnicky, University of Georgia, c/o Dept. of Plant Pathology & Plant Genetics, Athens, Georgia 30601.

Seventh Annual Professional Landscape Management School, Evansville, IN, **Nov. 24-25.** Contact Allen Boger, Extension Agent, Horticulture, Room 202, City-County Building, Evansville, IN 47708.

ALCA Design/Build Symposium, Marriot-North, Dallas, TX, **Dec. 2-4.** Contact ALCA, 1750 Old Meadow Road, McLean, VA 22102, 703/821-8611.

Minnesota Nurserymen's Association Convention, Radisson South Hotel, Minneapolis, MN, **Nov. 29-Dec. 1.** Contact Minnesota Nurserymen's Association, 1360 Terrace Drive, St. Paul, MN 55113, 612/633-4987.

American Society of Agronomy, Crop Science Society of America and Soil Science Society of America, 73rd Annual Meeting, Atlanta, GA, **Nov. 29-Dec. 4.** Contact American Society of Agronomy, 677 South Segoe Road, Madison, WI 53711, 608/274-1212.

Ohio Turfgrass Conference and Show, Columbus, OH, **Dec. 2-4.** Contact David P. Martin, Ohio Turfgrass Foundation, Ohio State University, 1827 Neil Avenue, Columbus, OH 43210, 614/422-2591.

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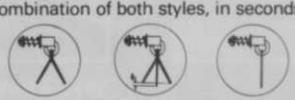
Change blades to thatching knives, or combination of both styles, in seconds.



Mathews Company

P.O. Box 70, Crystal Lake, IL 60014 / 815-459-2210

Circle No. 122 on Reader Inquiry Card

New Trailblazer™ sweeps turf/hard surfaces

At last! A rugged all-terrain sweeper that can clean both your turf and hard-surfaced areas. Provides productivity undreamed of before. TENNANT® Trailblazer™ sweeps up to 3 acres of turf or 7 acres of hard surfaces per hour. Has more power than any turf machine. Lease/time purchase/rental plans available. Write: Tennant Company, 701 N. Lilac Dr., Minneapolis, MN 55440.

Climbs curbs, articulates to sweep hard-to-reach places.

TENNANT® **MAINTENANCE SYSTEMS**

sweepers • scrubbers • scarifiers • floor coatings

Call Toll Free: 800-328-5727 Ext. 768P

Circle No. 138 on Reader Inquiry Card

WANT A BUSINESS PARTNER TOUGH ENOUGH TO BULLDOZE THE BACKLOT?

LATCH ON TO A BOLENS.

When you're in business for yourself, you need all the help you can get, at a price you can afford.

Bolens delivers.

Our fuel efficient diesel is a real workhorse, a partner you can count on.

Choose 2- or 4-wheel drive with 15 to 29 horsepower. Matched with exclusive Bolens-made attachments, you've got a partner with the guts to get any job done right. From spring plowing and landscaping, to summer mowing, to winter snowblowing.

Latch on to a long-lasting Bolens. You won't find a partner that works harder—or longer.

BOLENS DIESELS
The Work Machines

FMC FMC Corporation. 215 South Park Street. Port Washington. Wisconsin 53074

Circle No. 112 on Reader Service Card

PRODUCTS

Kut-Kwick Corp. has introduced its J Series mower. Its semi-rigid deck design offers ground contouring capabilities for smooth cutting on finished turf and extra traction for very rough grounds conditions. The single blade is available in 31- or 36-in. cutting widths and the unit is equipped with a 10 horsepower cast iron engine.

Circle No. 175 on Reader Inquiry Card

Agro-K Corp.'s PRO-TEC Anti-Transpirant is designed to prevent winter injuries, excessive water loss, windburn and sun-scald. When diluted 7 to 1 it will treat approximately 70 three-foot evergreen trees and dry to a dull, non-sticky finish in 15 to 20 minutes.

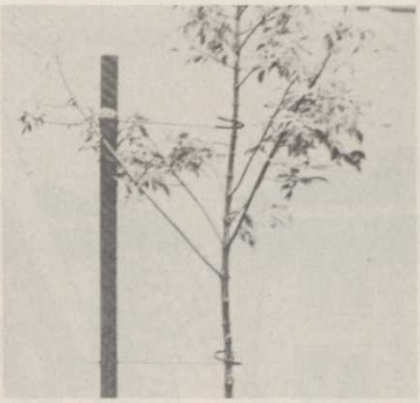
Circle No. 176 on Reader Inquiry Card

The Snapper Vac-N-Pac grass catcher is a vacuum cleaning attachment for Snapper garden tractors from McDonough Power Equipment. It is installed directly to the rear of the tractor and prevents jack-knifing while operating in reverse because there is no pull cart. The Vac-N-Pac is used with a 48- or 54-in. rear discharge mowing unit

and the air duct is mount on the center instead of the side.

Circle No. 177 on Reader Inquiry Card

Hobbs & Hopkins Ltd.'s Straight Tie guy wires are made from 9 gauge galvanized wire and have a 360° loop at one



end covered with a weather resistant sleeve to protect the tree. Straight Tie allows newly planted trees (up to 1½-in. caliper) to be supported with just one stake.

Circle No. 178 on Reader Inquiry Card

Quickdraw by Caudill Seed Co. is a liquid applicator for use with herbicides for instant spot killing. It is designed to be more efficient than sprayguns and rope devices. An available

adapter kit comes with an angle extension and foliage guard for use under young trees and valuable plants.

Circle No. 179 on Reader Inquiry Card

Does the condition of your turf make you see red?

Switching to Pennfine Perennial Ryegrass could color your outlook. It's long been the standard of quality against which other varieties are compared. Why not simplify your life? Go with the most widely used fine-leafed perennial ryegrass in the nation. By the way, if you have trouble finding Pennfine, just ask the turf pro with the best-looking turf around. Chances are he's already using it. Pennfine Perennial Ryegrass, P.O. Box 923, Minneapolis, MN 55440

Circle No. 129 on Reader Inquiry Card

New V-454: Keeps it simple.

Good news for utilities! Introducing the new V-454 from Vermeer. Designed specifically for utility work. Solid. Quiet. Simple. Loaded with important features that make it perfect for today's underground construction needs. Trencher. Backhoe. Cable Plow. Dozer. Huge 20.5 gallon fuel tank to keep you going all day. Easy access to regular maintenance points so that they don't get ignored or overlooked. Fold-up crumber for straight down starts. Positive digging chain tensioning. Cutters bolted to both sides of the chain. Quick-mounting and dismounting attachments. Gas or diesel engine options. Big trenching capacity ... up to 18 inches wide, 60 inches deep.

Now that's a well built, well thought out digging machine! But, most important, built by a company that has set the industry standard for quality.

See your Vermeer dealer today.

VERMEER V-454: Digs up to 18 inches wide, down to 60 inches deep (standard). Installs cable direct down to 24 inch cover depth without surface disturbance. **ATTACHMENTS:** Trencher. Backhoe-blade. Vibratory Cable Plow. Dozer Blade. **FOR COMPLETE INFORMATION:** Call Toll-free (800) 247-2347. In Iowa call collect at (515) 628-3333.

Get a taste of **Vermeer Quality**

THE DIGGIN' DUTCHMAN

8810 New Sharon Road • Pella, Iowa 50219

Circle No. 143 on Reader Service Card

WT&T CLASSIFIEDS

RATES: 75 cents per word (minimum charge, $20). Bold face words or words in all capital letters charged at $1.00 per word. Boxed or display ads charged at $70 per column inch (one inch minimum). Agency commissions will be given only when camera-ready art is provided by agency. For ads using blind box number, add $5 to total cost of ad. Send ad copy with payment to Dawn Anderson, WEEDS, TREES & TURF, 1 East First Street, Duluth, MN 55802.

BOX NUMBER REPLIES: Mail Box number replies to: WEEDS, TREES & TURF, Classified Ad Department, 120 W. 2nd St., Duluth, MN 55802. Please include box number in address.

USED EQUIPMENT

Like New Vermeer TS-24 tree spade $2500.00. Also 5 ft Lely Turf Shaper $3500.00. Phil Cooling, Durand, IL (815) 248-2775. 10/81

HI-RANGERS AERIAL BASKETS 65′, 57′, and 53′. Skyworkers aerial baskets 65′, 50′, 40′. Vermeer stump cutter 1560,6. Vermeer tree spade 66, TS 44. Asplundh bucket and brush chippers. Bean sprayer, 9 ton trailer. Parkway Tree Service, 12026 W. Cherry, Wauwatosa, Wisc. 53226. (414) 257-1555. TF

1970 insulated 6950 skyworker. Reconditioned January 1981 to a 6945 with new knuckle. Mounted on 1969 Ford F 600 with chip box. Forest Tree Service, Box 335, Rt. 6, Lockport, IL 60441. (815) 838-3066. 10/81

High Ranger, 48 foot on 1975 Ford F600, $15,500; Asplundh Brush Chipper, 16 inch V8 Torque Converter, $4,900; Michigan 55A Loader with Young Log Grapple and bucket, $12,500; 10 ton Tag-a-long Equipment Trailer, $2,900; International Tandem Axel Dump, 20 foot steel box. F.A. Blake, Harper Woods, Michigan 313-881-6100 days, 313-774-1698 evenings. 10/81

FOR SALE: 1978 Toro 7-gang Parkmaster, spartan reels; 1978 Toro 9-gang Parkmaster, spartan reels; 1977 Howard mower, 60″ deck w/vacuum attachment, rebuilt, primed & painted; 1980 Bowie Windsor Hydro-mulcher; Scriptomatic model 29-12 addressing machine w/stand, 20 hours; 1976 Ford 532 diesel tractor w/front end loader, 1,730 hours, turf & lug tires, Howard E60 rotovator, Gannon box scrapper w/ripper teeth; Heston mower model 180 w/48″ & 60″ decks, vacuum attachment & snow blade, rebuilt, primed & painted. Maintain, Inc., P. O. Box 1711, Beaverton, OR 97075. (503) 642-2574. 10/81

HI-RANGER BUCKET TRUCKS, 54′ and 51′, Flatbed and chip box mitts - Merrill brush chipper. Allied Enterprises, Inc., W. 204 N. 11509 Goldendale Rd., Germantown, WI 53022, (414) 255-6161 anytime. TF

Ver Meer T218 & 20 tree spade used two years on a one man project. Carl Simmons, 505 Plain Street, Minerva, OH 44657. Phone: (216) 868-6122 or (216) 868-7602. 10/81

1952 Ft. Hi Ranger mounted on a 1965 Chevrolet. 1972 Stump Cutter. Model #1050. New Engine. $4,600. Call (303) 659-6427. 10/81

1964 Asplundt Bucket Truck. Truck in good condition - bucket needs work. Asking $6,000. Call (201) 477-5979. 10/81

1974 Skyhook crane, 100HD good condition. 1970 Vermeer 1560 stumper, rebuilt. Best offers. Page Hill Corp., Winterport, ME (207) 223-4655. 11/81

1980 TS50M Vermeer Tree Spade — mounted on 1978 International 1700 four wheel drive with Allison automatic transmission, lock differential, free wheel hubs, tool box, cab rack. 11,000 miles. Like New! $26,500. Jones Bros. Tree Company, 7038 Highway 72, Germantown, TN 38138. (901) 754-7716.

For Sale — 7 gang Toro fairway mowers; Easy-Spread fertilizer spreader, three point hitch; Bean mist sprayer. Call evenings — (518) 861-6454. 10/81

22″ Morbark Chipper, excellent condition. For information call (612) 484-2266 or (612) 489-1149. $78,500.00. 10/81

Kubota B7100 FWD diesel tractor with front end loader, Howard rotovator Model J, 5′ York landscape rake, Case/Davis mini-sneaker vibratory plow with hydro-borer attachment, 2 pull blades and 60′ of borer rod. All in excellent condition. (419) 337-5649. 10/81

BUCKET TRUCKS, SPRAYERS, MIST Blowers, Chippers, Log Splitters, Stump Grinders. Largest selection of reconditioned arborist equipment in the Northeast. Call or write with your needs. **ESSCO,** 584 **WEST HOFFMAN AVENUE, LINDENHURST, N.Y.** 11757. (516) 226-5115. 3/82

12″ Mitts & Merrill brush chipper with 6 cyl. Ford engine & 1 ton Ford truck with chipper box. All in good condition. $4,995.00. Call (414) 231-5025 after 4 P.M. 10/81

For Sale: Vermeer 665 Stump Grinder; Wayne 12″ Brush Chipper; Skyworker 50′ Bucket Truck; Bombadier Track Brush Cutter; Kershaw 10′ Wide Brush Cutter; 440 John Deere Skidder; 6600 Ford R.O.W. Equipped. Call (404) 323-0428. 10/81

L20 LINDIG SOIL SHREDDER: with 35 hp Wisconsin engine and rotary screener — demonstrator, used less than 5 hours. Current price approx. $16,000. Special price F.O.B. West Henrietta, N.Y. $11,500. S.V. Moffett Co., Inc. (716) 334-0100. 10/81

2 - 8′ JACOBSEN LAWN AERATORS with hydraulic lift wheels, have spike teeth or plugs, units are joined to make 16′ machine, very good condition. Total price $5,500.00. Emerald Green Sod Farms, Inc.; P.O. Box 663; Naperville, IL 60565. Phone (312) 898-8680. 11/81

POSITION WANTED

Pro/Manager at large facility in the Midwest seeks similar position in same size or smaller club in the Southeast. For resume and references send replies to WTT Box 278. 11/81

Golf Pro PGA member 25 years, good promotor of golf. Experienced Manager-Superintendent, desires a smaller club for 1982 as golf pro or combination. Write WTT Box 280. 10/81

Continued on page 66

For Construction, Agriculture or Industry...

"PIGGYBACK" WILL HANDLE THE JOB!

For further information or demonstration, write or call collect for the dealer in your area. Dealer/Distributor inquiries invited.

Space-saving "Piggyback-style" transport. (Custom hitch-trailer available, if preferred.)

Powerful...Safe...Extremely Versatile!

The Princeton "Piggyback" is one of the most versatile material handlers on the market today. It is inexpensive enough for small jobs but powerful enough for the big ones. With or without its Quick-Mount options, the "Piggyback" can handle a wide variety of jobs. It's strong...light and fast. You get heavy-duty durability with an exceptionally low ratio of weight to carrying capacity. But, most important, the "Piggyback" will do your big jobs with complete safety and stability even on rough terrain. Ask about a "Piggyback" Material Handler, today!

Quick-Mount Options!

For even greater versatility include a large capacity hydraulic or mechanical scoop or hydraulic hole digger (6″ to 36″ diameter) option.

- Navigates curbs, logs, and other normal field or loading area obstructions with ease.
- Trudges easily through gravel, sand and mud...but floats over normal soil or sod.
- Turns quickly in its own length.
- Strong and safe on steep grades.
- Economical diesel engine for superior power for all adverse operating conditions. (30-50 hp)

princeton mfg. company

955 W. Walnut St., Canal Winchester, Ohio 43110
Phone: (614) 837-9096

The "New Concept" People

Circle No. 131 on Reader Inquiry Card

KERB® ENDS YOUR ANNUAL BLUEGRASS BLUES.

Annual bluegrass, alias *Poa annua*, is one tough, ugly problem. It will do a number on your fairways. But not if you apply Kerb preemergence herbicide this fall. Kerb prevents this seedy character from rearing its ugly head.

Kerb wipes out germinating Poa *before* it reaches the surface.

With Kerb your fairways stay green. Poa can't mature so there are no seeds tracked onto greens. And you can take out cool-season overseeding grasses like rye without harming dormant Bermudagrass.

Call your local supplier today and order Kerb 50-W herbicide. You'll never have the bluegrass blues again.

Circle No. 132 on Reader Service Card

Use Kerb in the fall~ Poa won't sprout at all.

ROHM AND HAAS
PHILADELPHIA, PA. 19105

Read the label and use only as directed.

Classifieds *from page 64*

Golf Superintendent—Ambitious, hard working superintendent with bachelors degree in agronomy. Experience with northern and southern turfgrass management. Resume on request. Phone (816) 679-6395. 10/81

FOR SALE

Used Spray Units For Sale
1,250-gallon stainless steel tanks. Mechanical agitation. FMC 20 gallon/minute pump. Hanney electric reel. Ford F600 and Chevy C60's— '76's, '77's, '78's and '79's.
Call (502) 241-7243. 12/81

SKYWORKER AERIAL BUCKETS: Sales, Parts and Service. New and used units available to 65 feet. New and Used brush chippers, Hydro Ax's, used stumpers, sprayers and digger derricks also available. Call or write P. C. GOULD SALES COMPANY, Plains Road, Essex, Conn. 06426. (203) 767-1636. 12/81

100,000 R.R. TIES. Available at all times in various stages of processing. Offered for sale in the ground, stacked or in strictly graded bundles—picked up or delivered to accommodate particular customer's needs. We specialize in large quantity orders. Call the Professionals—America's largest tie processor—United Railroad Suppliers. 1-800-247-7908. 10/81

ZOYSIA MEYER Z-52 $2.00 per square yard, 200 yard orders. Cartwright Nursery Company—Collierville, TN 38017 (901) 853-2352. 10/81

NEW RAVEN 38" diameter 300 gallon fiberglass tanks with 18" hinged manway at wholesale prices. Call (502) 366-1415. TF

LAWN SEED. Wholesale. Full line of top quality grasses. Improved bluegrass varieties, fine fescues and fine bladed ryegrasses. We specialize in custom mixing. Oliger Seed Company, 2705 Wingate Avenue, Akron, Ohio 44314. Call collect (216) 753-2259. 1/82

NEW ENGINES

HORIZONTAL SHAFT

3½ H.P. Tecumseh	$95
5 H.P. Tecumseh	$119
5 H.P. Briggs	$121
5 H.P. Briggs I/C H Duty	$150
6 H.P. Tecumseh	$138
8 H.P. Briggs	$187
8 H.P. Tecumseh	$177
10 H.P. Tecumseh	$202
With Electric Start	$249

(8 & 10 H.P. have Cast Iron Sleeves)

VERTICAL SHAFT FOR MOWERS

3½ H.P.	$89.50
5 H.P. Briggs	$136.00
8 H.P. Tecumseh	$189.00
8 H.P. Briggs	$195.00
10 H.P. Tecumseh	$205.00
With Electric Start	$259.00
11 H.P. Briggs El. Start	$285
16 H.P. Briggs El. Start	$412

Large Stock of New Surplus Motors, Hydraulics, Log Splitter Parts, Mini Bike Clutches, Wheels & Trailer Parts. Send $1.00 For Catalog.

NORTHERN HYDRAULICS
1137 Riverwood Dr., P.O. Box 1221 Dept.
Burnsville, MN 55337 (612) 894-8310

Completely overhauled and dielectrically insulated 45' Sky-Workers—For Sale and Rent. 90 day guarantee on sales. Call Aerial Lift, Inc., Milford, Conn. (203) 878-0694. TF

WANTED

WANTED: Mist Blowers, or parts, series 100 or other models. Tamke Tree Experts, Martinsville Road, Liberty Corner, NJ 07938. (201) 647-2784. 10/81

WANTED TO BUY: 5' Kwik Kut Mower. Call: (412) 793-4665 or (412) 793-3870 between 8:00 and 5:00 weekdays. 10/81

Bean Pumps 35 gallon—60 per minute. Wisconsin Engines. Spray Tanks—600-1000 gallons. Write: Grove Garden Landscape Co., P. O. Box 321, Sharon, MA 02067. Or call: (617) 784-5109. 11/81

Large Lindig & Royer Soil Shredders, Lewis Equipment Company, 320 Third Street, SW., Winter Haven, Florida 33880. (813) 294-5893.

Wanted: Bean Roto Mist, also a Bean hydraulic sprayer. Call Bombaci Tree Experts, Essex, Conn. (203) 767-1752. 10/81

STUMP GRINDER — Would like to buy. Hodges stump grinder, in good condition! Lake Miltona G. C., Box 72, Miltona, MN 56354. (218) 943-2901. 10/81

HELP WANTED

QUALIFIED GOLF COURSE MECHANIC wanted to fill lead position at Class A golf resort. 54 hole operation requiring indepth knowledge of cutting units, both Jacobsen and Toro, hydraulic systems, small gas and diesel repair. Salary commensurate with experience. Apply to Sea Pines Co. at Hilton Head. c/o Personnel Dept. Hilton Head Island, S. C. 29928 (803) 785-5333 Ext. 371. 10/81

Keep plantings, trees, shrubs, sod and indoor plants healthy with

WILT PRUF®
ANTI-TRANSPIRANT

WILT-PRUF, the proven anti-transpirant for over 30 years, protects against plant damage due to winter kill, transplant shock, wind burn, drought and air pollution. WILT-PRUF forms a protective coating holding in moisture on plant stems and foliage substantially reducing water loss during periods of excessive evaporation.

WILT-PRUF meets FDA specifications for use on edible crops; is 100% organic and biodegradable. Comes in convenient sizes: Pint, Quart, Gallon, 5-Gallon, 30-Gallon, 55-Gallon and Redi-Spray cans.

For more information call or write Dept. WTT
Wilt-Pruf Products
P.O. Box 4280, GREENWICH, CT 06830-0280
From the makers of SPRAY-STAY Sticker-Extender

Circle No. 144 on Reader Inquiry Card

EQUIPMENT & SAFETY DIRECTOR—we are a medium sized tree service company covering an area of several states. We are seeking an individual to take complete charge of our equipment, training, and loss control programs. The person selected must have a well-rounded background of equipment that is normally used in foliage control work. Traveling from area to area is involved. We expect to employ additional help in this position as there is more work than one person can handle. We consider this position to have excellent opportunities for advancement. The position carries major responsibilities and is considered to be in the management area. Salary will be based upon experience and background, being open to periodic reviews. There is also an incentive program applicable after a reasonable probationary period. Please write to WTT Box 276 giving all pertinent information including, but not limited to, experience, background, geographical area desired, education, availability, and other informative details. 10/81

Experienced Tree Trimmer to work in the State of Colorado. Call (303) 659-6427. 10/81

CORPORATE FIELD REPRESENTATIVE—Responsibilities center around servicing and advising our lawn and tree care franchises in Northern Illinois and Indiana. Within a year or two, there is a possibility of transferring to another city to manage the servicing of our franchises in that area. The ideal candidate will have at least Assistant Branch Manager experience and a good working knowledge of lawn care. A personable manner and well developed communication skills are a must. This is an exceptional opportunity with a young, but prominent, lawn and tree care company which is expanding and growing tremendously. Competitive salary and benefits. Send resume and salary history/requirements to: Spring-Green Lawn Care Corp., P.O. Box 908, Naperville, IL 60566. 12/81

TWO EXPERT ASSISTANTS NEEDED . . . one with extensive experience in TURF CARE, the other in ORNAMENTALS & TREES. Your responsibilities will include teaching, writing, day travel for consulting, handling homeowner customer complaints; policy and program formations for lawn/shrub/tree care. A background in selling will be to **your** benefit. Degree required, or equivalent. Begin March 1982. Write for more information. Include a brief resume of your experience and earning requirements NOW and THREE YEARS from now. All inquiries in strictest confidence. GRASS ROOTS, GREEN PRO EXECUTIVE NEWSLETTER, 380 South Franklin Street, Hempstead, NY 11550, Attn: R. Riley. 10/81

ARBORIST—$19,766 - $25,227— City of Charlotte. Professional work in the planning and coordination of a tree management program for a city with a population of 308,000. Requires experience in arboriculture at a professional or supervisory level; B.A. or B.S. in forestry, botany, or arboriculture; and the ability to communicate effectively both orally and in writing. Send resume with salary history to: Art Brown, Personnel Department, City of Charlotte, 600 East Trade Street, Charlotte, NC 28202. An E.O.E. M/F/H. 10/81

Grounds Superintendent. Responsible for all phases of maintenance of 800 acre campus; must be fully qualified including knowledge of sprinkler system design, installation and maintenance. Job available now. Salary: $1,318.92/1,527.72. Requests for application forms must be received by November 16, 1981. Write to: Personnel Dept., Idaho State University, Pocatello, ID 83209. ISU is an equal opportunity employer. Women and members of minority groups are encouraged to apply. 10/81

Turf Equipment Mechanic with at least 10 years experience. Must do above average work. Lewis Equipment Company, 320 Third Street, SW., Winter Haven, Florida 33880. 10/81

LANDSCAPE MANAGER— Minimum of three years experience in landscape management at multi-crew level. Applicant should be qualified in recruiting, training, purchasing, and scheduling, have an established income pattern, and a desire to grow personally and financially. Send resume with recent photo and salary history to: D. Synnestvedt, V.P.—**BRICKMAN INDUSTRIES, INC.**—Long Grove Road—Long Grove, Illinois 60047. 10/81

LANDSCAPE MAINTENANCE SALES—Representative to sell high quality landscape maintenance services to the corporate, commercial, and multi-family housing markets. Applicants should have sales experience, background in horticulture or related field, an established income pattern, and a desire to grow personally and financially. Send resume with recent photo and salary history to: D. Synnestvedt, V.P.— **BRICKMAN INDUSTRIES, INC.**— Long Grove Road—Long Grove, Illinois 60047. 10/81

BRANCH MANAGER: Chemical Lawn Care firm is accepting applications for Managerial position. Must be experienced in route and service type business, responsible for sales personnel and administration. Must be willing to relocate in Ohio, Indiana or Kentucky areas. Write WTT Box 270. 11/81

ASSISTANT GOLF COURSE MANAGER—State of New Jersey seeks individual to assist manager in all phases of golf operation. Responsibilities include building and grounds maintenance, pro-shop operation, records and correspondence, planning, budget preparation, hiring, purchasing and the opportunity to participate in an ambitious capital improvement program including the construction of new holes and installation of an irrigation system. Applicants should possess a 2 year turf certificate—Bachelor Degree beneficial. Send resume to Spring Meadow Golf Course, Box 396, Farmingdale, NJ 07727. 11/81

PARK FACILITY MAINTENANCE SUPERVISOR — ANNUAL SALARY $16,092.-$21,576. DEKALB COUNTY, METRO ATLANTA AREA. Excellent benefits, work involves responsibility for supervision of personnel, budget and all phases of operations/maintenance pertaining to a general maintenance program in 43 parks, consisting of fencing, roofing, landscape management, mowing, trash and refuse collection, horticulture, herbicides, lakes and tennis facilities, drainage, parking lots and roadways throughout the parks. Applications may be obtained at the Dekalb County Merit System, 556 N. McDonough Street Room 103, Decatur, Georgia 30030. For more information please call (404) 371-2331. 10/81

OUTSIDE LANDSCAPE SUPERVISOR seeking individuals with experience in large scale landscape. Knowledge of all types lawn equipment and supervisor experience preferred. Salary in the mid-teens. Excellent benefits. Send resume to P.O. Box 58420, Dallas, TX 75258-0420. 11/81

CAREER OPPORTUNITIES with the sod industry leader. Due to the rapid on going expansion of our North American sod production capability, The Manderley Corporation is looking for management personnel. If you are interested in a career in agricultural management with an aggressive, fast moving company, we want to hear from you. Apply in writing to: The Manderley Corporation, R.R. #3, North Gower, Ontario K0A 2T0, Canada. Attention: Director of Personnel. 10/81

MISCELLANEOUS

NEW BALL BARRIER NETTING: Made of olefin fibers. 6½ feet and 25 feet high. Strong and tough. Will not rust. Easy to handle. For Driving Ranges and Golf Courses. Keep golf balls from straying off-course. J.A. Cissel Co., Inc., Dept. JK, P. O. Box 339, Farmingdale, N.J. 07727. (800) 631-2234. 10/81

Continued on page 68

Does your turf's appearance make you feel blue?

Then it's time you started using Pennfine Perennial Ryegrass. Pennfine has proved itself for nearly a decade with the toughest customers of all: Thousands of turf pros all across the nation. It's used consistently on many of the nation's most prestigious turf areas. It should be on yours as well. Pennfine, the best-selling fine-leafed perennial ryegrass available. Pennfine Perennial Ryegrass, P.O. Box 923, Minneapolis, MN 55440

Circle No. 130 on Reader Inquiry Card

Classifieds *from page 67*

For those involved in Grounds Maintenance, Lawn/Tree/Shrub Care, or Landscaping. GARDEN TIPS. The proven BUSINESS BUILDER—PROFIT MAKER for everyone serving the homeowner market. IT'S **YOUR** MONTHLY NEWSLETTER TO YOUR CUSTOMERS. It says "Hello" to your customers each month for you—because **you** don't have the time! And it SELLS. It sells you as a PROFESSIONAL. It sells your service. "Garden Tips" is sent to you ready to mail. A first-class piece—items of interest include lawn care, shrub and tree care, vegetable and flower planting, and houseplant care. Written for quick, entertaining and compact nuggets of information. Our present subscribers report back 95-98% readership (by their own surveys) and substantial sales and new business directly attributable to "Garden Tips." Best of all—it's low in cost. Call or write (516) 483-0100, "Garden Tips", Box 117, Garden City, NY 11530 for more information. 11/81

Do you have 150 customers—Or maybe only 25—who are interested in quality service, and depend upon **you** to meet their lawn/tree/shrub needs? Then we'll show you how to make **thousands!** of extra dollars during October/November/December of **THIS YEAR.** This is what our FALL PROFIT WORKSHOPS are all about . . . YOU making more money with less effort while performing and supplying services EVERY ONE OF YOUR CUSTOMERS NEEDS! For dates and places of Green Pro Fall Profit Workshops nearest you, call (516) 483-0100. These Workshops **completely** prepare you to tap the waiting profits you are not enjoying now. /81

LANDSCAPE DESIGN KIT, 37 rubber symbol stamps, ink pad, $38.50 postpaid. California add $2.16 tax. Stamps kit brochures available. American Stamp Co., Box 741, Dept. WT, Reseda, California 91335. Phone (213) 881-2808. TF

GROUNDS MANAGERS - Join your own professional society. Monthly newsletter, membership directory, certification, annual conference and trade show, and many other membership benefits. Contact: PGMS, Department WTT, 7 Church Lane, Pikesville, MD 21208. 11/81

BUSINESS OPPORTUNITIES

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LAWN EQUIPMENT SINCE 1949

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TO KEEP YOU CUTTING.

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A mower that keeps you cutting. Gets the job done.

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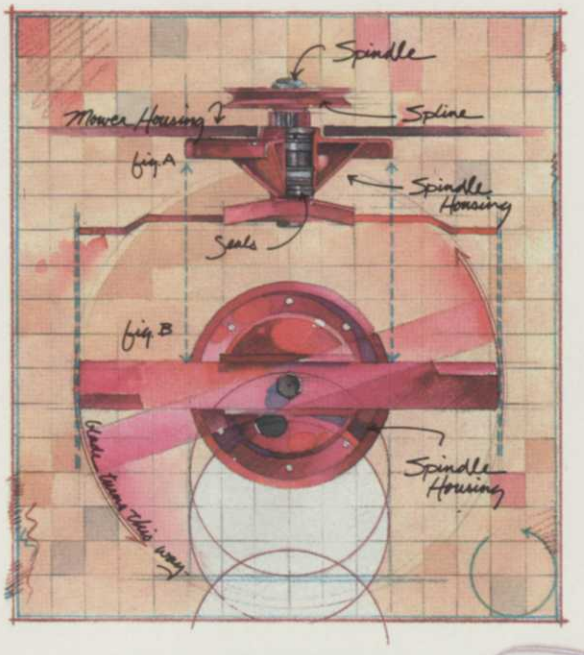

Then, we put splines rather than keys in the shaft and pulley. These machined grooves mesh like gear teeth all around, won't slip, and they wear much better and longer than key type systems.

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Right now.

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- The Princess Hotel, Bermuda
- Rio Piñar, FL
- Country Club of Birmingham, AL
- Olive Branch Country Club, MS
- Pass Christian Isles Golf Club, MS
- New Orleans Country Club, LA
- Champions Golf Club, TX
- Quail Valley Golf Club, TX

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